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Seeking Relief by Law.

A dispatch from Fall River, Mass., says that it is expected that a shut-down or a decided reduction of wages will be advised to improve the condition of the local cotton industry. Those opposed to a shut-down contend that it would simply allow other States to meet the improved demand by running overtime. It is asserted that this is particularly possible in the South, and that the only remedy is believed to be in securing a national law governing hours of labor.

Nothing is said, however, about the position either of the Southern mill-owners or of the Southern operatives toward national regulation of the hours of labor, the inference being that they are not to be considered in the matter. In view of the experience of New England with such kind of legislation locally, it may be suggested that wisdom would dictate a policy of going slowly in this direction, or, better still, of not going at all.

The Demagogic Pestilence.

From time to time the Manufacturers' Record has warned the South of the evils of demagogism. Some of our contemporaries have made a personal matter of this failing to comprehend that a true friend will endeavor to dissuade another from a fault. But there are others in the South of like mind. The Wilmington Messenger, commenting on the situation in North Carolina, frames an editorial containing so much vigorous truth that we reproduce it in part. Under the caption, "Demagogues Building Fires to Consume," it says:

They seek to inflame the public mind and to stir up strife and animosity between neighbors. To consummate their own selfish, greedy plans they are indifferent to public calamity and are ready for any plot or plan that will continue them in public office and give them a personal following. . . . The political principles of demagogues can be shed as easily as clothing and the garments substituted may be of any color necessary to harmonize with new surroundings. They are political acrobats at one time and political chameleons at another time. It is as absurd to call their self-seeking public policy and genuine principle as to call foul water pure or rotten eggs sound.

The Baling of Cotton.

As the best method of compressing cotton is now the most important question affecting cotton interests in this country and abroad, the Manufacturers' Record publishes this week special articles on the subject written by three of the most noted authorities in the country, presenting different views of the new cylindrical bale. Mr. James L. Orr, president of one of the most successful cotton mills in the South and a gentleman deeply interested in all that concerns the cotton trade in all its forms, suggests, in addition to the arguments that the new gins and presses will supplant the ones now in use, that a change of covering would mean a loss to the producer; that the pressure on the round bale injures the fibre irreparably and that a reduction in the number of samplers offers opportunities for fraud, that the round bale, in requiring much more time, trouble and expense for opening up, will present several serious disadvantages to manufacturers who now use uncompressed cotton.

Col. A. B. Shepperson, the noted cotton statistician, who is widely known as always friendly to the cotton-growing interests, takes issue with Mr. Orr on all points. He states that, with the exception of the cotton used by our Southern mills, about 10 per cent. of the crop, nearly all of our cotton is compressed before it reaches American and foreign spinners, so that the matter of the expense of opening up cylindrical bales at the mills should be compared with compressed bales and not with uncompressed ones. Mr. Shepperson admits that there is a slight advantage in the use of uncompressed cotton, but insists that it only enables the Southern manufacturer who uses uncompressed cotton to limit the size of his opening and picker department, thereby saving a very little capital in the original investment. At the same time, it may be added that the mills buying uncompressed cotton and the round-bale buyers will become competitors for cotton to the great profit of the growers.

Colonel Shepperson shows, moreover, that the reduction of expenses on cotton from the time it is ginned until it reaches the mill benefits the grower; that the change of cover is actually a saving to the grower; that progress is never made without losses to some interests, and, in addition to letters from Mr. Charles L. Lovering, of Lowell, Mass., Hon. T. Jefferson Coolidge and Mr. J. Howard Nichols, of Boston, Mass., proving conclusively by actual experience the advantages of the round bale, he quotes one from Messrs. Haughton & Co., of Boston, telling of the gratifying results of selling the round bale by samples, preventing loss to the growers by plucking and stealing during a series of resamplings.

Mr. Edward Atkinson, who has the habit of close observation and careful experiment, and who has been for years an earnest advocate of improved

handling of cotton, after reviewing the other contentions of Mr. Orr, dwells particularly upon the question of pressure, and takes the ground that the pressure upon the square bale is more injurious to the cotton fibre than that upon the cylindrical bale. In regard to sampling, he contends that the farmer ought to save one part and the spinner the other part of the gain accruing to from two to six persons under the present method, and that the new baling process tends to such a saving. Mr. Atkinson meets the argument of the displacement of old gins by calling attention to the fact that progress has been through the destruction of what has been valuable property by way of the invention of simpler methods and more effective machines. A note of Prof. John M. Ordway, late of Tulane University, New Orleans, has an important bearing upon Mr. Atkinson's letter, and confirms his statements as to the effect of the compression upon the fibre in the square and in the round bale.

In this connection is republished also an editorial from the Columbia (S. C.) State, in which it is said:

Too many people have been making a living out of cotton, and the producer has had to pay them all. If he could sell direct to the consumer without reduction, actual or conventional, he would be more likely to get the real value of his product.

Large interests have grown up about the handling of cotton, and it would be unpleasant—and doubtless injurious to many people—to have the succession of middlemen done away with; but, after all, that is the way of the world. Where a process is too expensive, invention gets to work to reduce the cost, and the cylindrical-bale machinery is as natural a sequence of expensive and wasteful methods as the typesetting machine is. Six-cent cotton cannot pay the tolls that twelve-cent cotton paid. Something must give way, somebody must go to the wall—the farmer or middleman. If the farmer does, there is no crop; so he is a necessity; he must stay. The logic of circumstances forces the middleman out. The cotton factor has already gone, in this part of the country at least. Other middlemen between the grower and the manufacturer must go, as the bringing of the mills to the cotton testifies. The foreign consumer must roll all his middlemen into one in order to meet on fairly equal terms the manufacturer-on-the-spot.

Herein has been briefly outlined the exceedingly interesting and valuable symposium on the subject of the round bale. It will be read by thousands of persons who have noted the development of the new system. It is undoubtedly the most complete presentation of the whole subject which has been published, and confirms the position long since assumed by the Manufacturers' Record, that the round bale was an immense advance toward the realization by the South of the full benefits of its great staple crop. With this improvement started many others must naturally follow.

A bill has been introduced into the Georgia legislature appropriating \$10,000 for the establishment of a textile department in the State Technological School. This is a step in the right direction. It will be the starting point

for an undertaking that has been much debated and which, properly administered, will be of advantage to the textile industry of Georgia, in training the young men of that State to know as much about manufacturing cotton as about raising cotton.

Georgia's Water-Powers.

An interesting and valuable contribution to the constantly expanding movement for the utilization of natural forces of the South is a preliminary report on a part of the water-powers of Georgia. It is compiled from the notes of C. C. Anderson by B. M. Hall, and is published by the State geological survey. It is pointed out that comparatively few of the large water-powers of Georgia have been utilized, and twenty-one falls or shoals, with a fall of from twenty-eight to 335 feet, where the water is running to waste, are mentioned especially. The failure to employ them economically is not due to any lack of enterprise or energy on the part of the people, but the point is made that it has been rather of an advantage, inasmuch as the dawn of the electric age finds these powers ready to receive the latest and best machinery without the loss of taking out old equipments or the necessity of running antiquated outfits in competition with modern ones.

The report traces the changes in the position of water as a power for stationary machinery and its new importance, gained through invention, for the transmission of power by electricity, rendering unnecessary additional building of power canals, and says:

The modern plan of placing a generating plant at the shoals and transmitting the power, electrically, for distribution wherever it is needed, is, in most cases, infinitely better, and the day is not far distant when many towns, situated in or near the crystalline belt of Georgia, can have all the power desired, at a much smaller cost than steam-power. . . . The foregoing discussion is not intended to intimate that the powers of this State are less conveniently located for factory sites than those of other States. On the contrary, many of the best water-powers are close to important railroads, and offer beautiful locations for manufacturing towns. Many others, near railroads, but situated in deep gorges and among rock cliffs, can be profitably utilized by placing a power station at the shoal and transmitting the power, electrically, to a good factory site on the railroad. There are also many valuable powers in our mining and quarrying regions that can be utilized in like manner. . . . It is now an acknowledged fact that cotton goods can be manufactured more cheaply in the South than anywhere else, and the bringing of the cotton factories to the cotton fields, which has already been begun in earnest, will continue, until the greater portion of our cotton crop will be shipped in the form of manufactured goods. Eastern capitalists, seeing and acknowledging this tendency, are beginning to investigate our region with a real desire to find out something about it.

These investigators will be greatly aided by the report of the State geological survey. It is an easy matter to talk in a general way of the possibilities of the South in this respect. But that is not enough. The intending investor is in search of facts. He wishes

to know where the water-power is, what its potentialities are and what the probable cost of development will be. The good work of meeting such wishes begun by Georgia should be continued and should be extended to cover thoroughly all sections of the South where needed.

For a Nashville Memorial.

As the results of the Tennessee Centennial are summarized its projectors have increasing reasons to be gratified. The unofficial record of paid admissions is 1,682,305, not including those through the terminal station for two weeks or the soldiers and other paraders. The failure to score 2,000,000 admissions, due to untoward circumstances, reduced the expected income, but the report of the auditor shows a slight debt of \$36,000, which will be more than extinguished by the sale of buildings and other property, even if \$39,000 delinquent subscriptions are not collected. Though the management will be prevented from purchasing the site and presenting it to the city of Nashville as a public park, it is believed that it will ultimately become a park, adorned with the Pantheon, the history building and other structures. Such a place would be a fitting memorial of Nashville's achievement as an exposition city of alertness and nerve.

To Protect the South.

In spite of objections here and there, public sentiment generally in the South, as voiced in its leading newspapers, is inclined to favor quarantine regulation by the general government. The way to secure action to this end has been marked out by a resolution of the wide-awake Commercial Club of Birmingham, Ala., calling upon similar bodies and the State and municipal authorities of Louisiana, Alabama, Mississippi, Georgia, Florida and Tennessee to bring pressure to bear upon Senators and Representatives in Congress to enact a law empowering the federal government to take charge of the quarantine of the country. A suggestion of the process for such action is given in the resolution offered in the Georgia legislature by Representative Knowles that, in case of an outbreak of yellow fever, cholera or smallpox, all quarantine matters shall be turned over by the State to the United States Marine Hospital service, under appropriate legislation to be hereafter enacted by Congress.

The principal arguments against general government regulation seem to be that things are well enough as they are, that a national quarantine would be in conflict with State rights and that it would furnish a weapon against Southern commerce and trade. It is hardly necessary to consider the first two, in view of the events of the past two months or when the question of conflicting interests is considered. The spirit which appeals to State rights in case of an epidemic would very probably seek refuge in town rights or neighborhood rights were an efficient State control attempted in some quarters.

The fear of injury resulting from undue influence brought to bear upon the federal power by commercial rivals of Southern ports has a semblance of reason. But the possibility of such an attempt in these days is remote. And it may be asked whether the success of such an attempt could injure the South as much as have the bickerings and slurs, the innuendos and charges which

have been exchanged among Southern cities this year, and the panic, often unnecessary, which has blocked the usual channels of trade and communication in some localities.

The problem is wide-reaching and complicated, and it is for the representative men of the South, regardless of local feeling or local interests, to devise and support some place for the protection of the whole South. Federal control of quarantine seems to offer the solution.

Output of Manganese Ores.

Ores of manganese were produced in seven States in 1896, the total output being 10,088 long tons, valued at \$90,727. Of this, 3421 tons were produced in Arkansas, 4085 in Georgia, two in North Carolina, 2018 in Virginia, thirteen in West Virginia, 284 in California and 265 in Pennsylvania. Mr. John Birkinbine, of the United States geological survey, in his report on this subject, says that a satisfactory demand for manganese ore at apparently remunerative prices has prevailed throughout the country, but the uncertain character of the deposits as to quantity and quality, and in some cases inaccessibility to market, has prevented active exploitation of domestic resources, and the greater portion of the supply for this country has been obtained from abroad.

Iron-Ore Production.

In his report on the production of iron ores in 1896 John Birkinbine, of the United States geological survey, says: "The contiguity of the raw materials entering into the manufacture of pig iron gives to portions of Alabama advantages which permit the production of iron at a cost lower than is at present possible elsewhere in this country, and below the minimum reached at most of the foreign works," and that the cost of making pig iron has been "so reduced as to permit of long railroad hauls to domestic markets, and some of the excess has been shipped to foreign countries." This is an official record of the advance of Alabama as an iron manufacturer, which has been noted from time to time in the Manufacturers' Record.

The State now ranks third as a producer of iron ore, its output having been 2,041,793 long tons in 1896. The output in other Southern States was: Virginia 859,466, Tennessee 535,484, Georgia and North Carolina 175,331, Kentucky 30,006, Maryland 11,502, Texas 41,777 and Missouri 4535, a total in the South of 3,662,984 tons. The total in the rest of the country was 12,332,465 tons.

Graphite in North Carolina.

A report from McDowell county, North Carolina, is to the effect that a very extensive deposit of graphite has been found to exist in that county, and it is to be worked by what is known as the American Graphite Co., which has purchased the land on which it is located. It is stated that in some places the graphite ore can be cut with a knife, as it is so free from grit. The property is located about five miles from the Western North Carolina branch of the Southern Railroad, and it is stated that analyses made of the ore show that the quantity of pure graphite ranges from 48 to 74 per cent. As a large quantity is annually imported into the United States, it is believed that the deposit will be of much value. H. M. Ramseur, of Asheville, N. C., has been surveying the property.

Flour ground from North Texas wheat is being shipped from Dallas to Liverpool.

Industrial News from Birmingham.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., November 9.

The iron market continues quiet. Furnace interests regard the situation as decidedly in their favor, and, as a prominent iron man expressed it, is as follows: "As shown by the October report of the American Storage Yards, stocks show a decrease for the first time in a long, long period. The reports from furnaces for October show a continued decrease in their stocks, and the heavy shipments now being made give every indication of adding to this decrease. Another important element in the situation is the constant importunity on the part of buyers for prompt shipments of purchases, anticipating, frequently, time of delivery. This shows paucity of stock for immediate use in hands of consumption. This condition of affairs in the domestic market is certainly full of encouragement to iron producers. Now to this you must add the outlook for iron in the Old World. The situation there is in many respects similar to that here, and the continued showing of decreasing stocks and the promptitude with which they take deliveries certainly foreshadow a position of growing strength and of greatly increased activity." To those acquainted with the situation these views will appear extravagant.

The sales the past week will approximate current production. Shipments are undiminished in magnitude and promise to continue in large volume. Quotations are unchanged both by furnaces and on account of warrants. The pressure for sale of latter seems to have let up and there are no reports of any offerings under \$6.40 for gray forge; regular price is \$6.75 for inside price.

The Alabama Bridge & Boiler Co. has been succeeded by the "Alabama Bridge and Boiler Works." Articles of incorporation have been filed, with W. M. Nalls as president and J. H. McEwen as vice-president and acting treasurer. Their capital is \$25,000. Their capacity will be increased and their lines of work enlarged. They will add an air plant, an air compressor, two riveters and pneumatic corking tubes, for which they are in the market. The Birmingham Boiler Works are completing a large tank for the Alabama Oil Works. Miscellaneous and repair work seems to be the principal kind occupying the majority. J. M. K.

They Need a Factory.

In a letter to the Manufacturers' Record Mr. Richard Hockerille, of Alexandria, La., commenting upon the need of a \$10,000 cotton factory for that place, writes:

"Now we need some man from the North or East to come right in here and start the factory. I myself am only an interested citizen and will receive your moneyed and experienced man with my vim and hustle, together with parties named below, to shove the project through."

The twenty-seven persons named include bankers, merchants, planters, lawyers and real estate agents.

Literary Notes.

Publications of the Southern History Association. Vol. 1, No. 4. Published quarterly by the association, Washington, D. C.

With this number is completed the first volume of a quarterly devoted to the presentation of the history of the South. One of the main purposes of the publication, the encouragement of the collection of the material for history, appears in "A Bibliography of William Gilmore Simms," by A. S. Salley, Jr. Gen. Mar-

cus J. Wright gives an account of Huck's defeat, or the battle of Williamson's plantation, South Carolina, July 12, 1780. C. C. Pinckney raises a question of fact over statements of J. B. McMaster in his "History of the People of the United States," a process which is likely to continue indefinitely, and a translation is made by Charles Edgeworth Jones of the journal of the siege of Savannah in 1779 by General Prevost, commanding the town. The departments of book notes and notes and queries are comprehensive and up to date. This work of the Southern History Association merits the earnest support of all persons interested in the complete working of a field that has been comparatively neglected, but which is full of notes for the student.

English Synonyms, Antonyms and Prepositions. By James C. Fernald. Publishers, Funk & Wagnalls Co., New York, London and Toronto.

Comparatively few writers and speakers appreciate the wealth of the English language. Their vocabulary is limited, and consequently their style is halting or unattractive. Their failure to weigh their words often makes the meaning of their sentences obscure or misleading. Some resort to synonyms in the effort to improve their style, but at the same time they fail to comprehend that synonyms are not identical, and the last state of those men is worse than the first. Mr. Fernald's volume is intended to present synonyms in convenient array and to explain their shades of difference. Within 375 pages are more than 7500 synonyms defined and distinguished briefly, though consistently, with clearness, and 3700 antonyms, valuable as supplying definition by contrast or by negative. The correct use of prepositions is also indicated, and the volume is given the character of a text-book by the full appendix of questions and answers.

The Power Catechism. Publishers, The Power Publishing Co., New York. Price \$2.

This compilation from the regular issues of Power contains correct answers to direct questions covering the main principles of steam engineering and the transmission of power. Its catechetical form of presenting information will appeal strongly to the practical man who desires a simple answer to a plain, practical question, rather than an elaborate exposition of the principles involved. The plan is a combination of conciseness, completeness and accuracy, and the volume will be found valuable to the every-day worker and to those who are preparing for special examinations.

The numbers of Harper's Weekly during November will contain letters from Tappan Adney, the Weekly's correspondent to the Klondike; an account of the recent fleet manoeuvres, entitled "With the North Atlantic Squadron," with four full-page illustrations, by R. F. Zogbaum; and articles on the Chicago and New York Horse Shows; on "The Zionite Movement," by the Rev. Clifton H. Levi; on "Crespo's Two Monuments," and on "The Making of a Big Gun." Mr. W. D. Howells will also resume his department of "Life and Letters."

Eugene F. Smith, State geologist, has published under the auspices of Isaac F. Culver, commissioner of agriculture, a sketch of the mineral resources of Alabama.

The sketch of the life of Michael Toumey, the geologist of Alabama, by Eugene A. Smith, of the University of Alabama, has been reprinted from the American Geologist for October.

OPINIONS OF EXPERTS ON COTTON HANDLING.

Mr. James L. Orr, President of the Piedmont Cotton Mfg. Co.;
Hon. Edward Atkinson, of Boston; Mr. Alfred B. Shepperson, of New York, and Professor Ordway, of New Orleans, Discuss How to Compress and Handle Cotton.

As the Manufacturers' Record has so often stated, one of the most important questions now before the South, touching the welfare of the cotton-planting interests, is the subject of better baling. When the round-bale enterprise was first brought out the Manufacturers' Record strongly advocated it as the beginning of a movement that would compel the better baling and handling of every pound of cotton, whether put up in the round or in the square bale. When once the round bale, with its compact form, non-combustible character and other advantages, assumes a prominent position in the cotton trade of the South, its success will compel the better handling and covering of every other bale, because competition would necessitate an improvement over the barbarous methods of the present. Taking this view of the case, the Manufacturers' Record has given much attention to the subject, believing that the system now in vogue is one of the most serious drawbacks to the prosperity of the cotton-planting interests. While it was natural to expect that many of the owners of the present compress systems would oppose every innovation likely to lessen their power over the cotton trade, there has not, so far as we are aware of, been any opposition of importance to the round bale, except from the compress interests likely to be affected by such a change and from some populist writers who see disaster in every invention of improved machinery.

Different Points of View.

In this issue, however, we publish a letter from Mr. James L. Orr, president of the Piedmont Cotton Manufacturing Co., one of the foremost cotton-mill men of South Carolina, in which he takes very decided ground against the round bale. The Manufacturers' Record regards his position as untenable and thinks that he has presented an entirely erroneous statement of the case. But when a man of Mr. Orr's position in the cotton manufacturing world advances an argument against anything bearing on cotton it demands the most careful investigation, and with this in view the Manufacturers' Record, in order that both sides of the case might be stated, submitted a copy of Mr. Orr's letter to Col. Alfred B. Shepperson, the well-known cotton statistician of New York, who is recognized throughout the cotton world as a careful, conservative authority, always friendly to the Southern planter, and to Edward Atkinson, the distinguished publicist of Boston, and asked them to present a reply to the points made by Mr. Orr. The letters are published in connection, in order that both sides of the case may be fully stated. Mr. Orr writes as follows: "Editor Manufacturers' Record:

"The question is much debated whether the proposed round bale of cotton is desirable. We would answer in the affirmative so far as the exporter is concerned, but in the negative as to the producer and Southern manufacturer. The producers, who own the ginneries, would lose the machinery now in operation if the American Cotton Co. erected its own gins and presses, which would amount to \$50,000,000, if there are, as reported, 40,000 ginneries in the South, valued at an average of \$1250.

"The present outfits, being inexpensive,

are numerous and scattered over the whole cotton-producing section; the new system, being more costly and capable of greater work, would be further apart, and we must allow for the additional expense of hauling.

"The next loss which the producer would suffer, and for all time, would be on the covering of the bale. Now he pays seventy-five cents, say, for one pattern of bagging and ties, weighing twenty-two pounds. This he sells, if cotton is seven cents per pound, at \$1.54, making a profit of seventy-nine cents. If he covered with duck on the round bale he would buy about six pounds, for which he would pay at least fifteen cents per pound, amounting to ninety cents. This he would sell, say, at seven cents, realizing forty-two cents and making an additional loss of forty-eight cents, or an aggregate of \$1.27 per bale. While the Southern farmers are willing to lose \$1 a bale by using the cotton bagging to break up the bagging trust, they would hardly be willing to contribute \$1.27 per bale to build up the American Cotton Trust. The loss of \$1.27 per bale on a crop of 9,000,000 would be an absolute loss of \$11,430,000 every year to the Southern farmers.

"The round bale would be of immense advantage to the insurance and railroad companies, but a terrible blow to the producer. While there is no question that the round bale is better protected and more easily handled than the square, it presents several serious disadvantages to manufacturers who use uncompressed cotton. In order to work cotton to the best advantage it is absolutely necessary to expose it to the air before putting it in the machinery, which is done in the opening-room. Now, anyone who ever tried to tear up a picker-lap will testify to the difficulty. A round bale is at least six times the density of the picker-lap. An opening gang will tear up and spread about two laps in the same time they can one square bale. You can see, therefore, at a glance how much more time, trouble and expense the round bale would require to open up than the square.

"The 'terrific pressure' to which the round bale is subjected, instead of being an advantage, as claimed, is a disadvantage, for it is applied to a very thin layer of cotton instead of the whole bale, as in the compress, and the result is that the fibre, which is hollow, is mashed flat and thereby irreparably injured.

"The object in manufacturing cotton is to lay the fibre smooth and even. Now, if it is allowed to remain in a round bale for any considerable time it retains the curve into which it is forced and becomes extremely difficult to handle, and makes additional waste and loss in every process through which it passes.

"The claim of the advocates for the round bale of selecting two samples as the bale is being ginned and thus avoiding being resampled would work practically if the cotton were sold directly by producer to manufacturer, and you could rely on the statement that it truly represented the whole bale, but as cotton passes through from two to six hands before reaching its destination, and each man must guarantee the grade, it will be found necessary to have more samples and an examination of the bale itself to

avoid misrepresentation. The round bale prevents this, and offers every opportunity for fraud imaginable, and the man who buys cotton under such circumstances unquestionably 'buys a pig in a poke.'"

Colonel Shepperson's Review.

It seems to the Manufacturers' Record that Mr. Orr has taken a view of the case that is entirely without good foundation, but without discussing the points raised we give Mr. Shepperson's very complete and comprehensive statement of the matter:

"Cotton Exchange Building,
New York, November 1, 1897.

"Editor Manufacturers' Record:

"From the respect and esteem which I entertain for Col. James L. Orr, president of the Piedmont (S. C.) Cotton Mill, I have read with much interest his letter in reference to the cylindrical cotton bale. I thank you for sending me a copy of the letter and for your partiality in thinking that any comments which I might feel disposed to make upon it would be worthy of publication. Ordinarily, I would not venture to publicly dissent from Colonel Orr's opinion in regard to anything concerning cotton after it has entered the mill, but his letter convinces me that his adverse criticisms on this branch of the subject are based upon the cylindrical bale as at first put up, and that he has had no practical experience with the present style of cylindrical bales.

"At the very outset I wish to say that I would not under any circumstances become involved in a newspaper controversy with Colonel Orr. I know he is thoroughly conscientious in all he has written and that his motives are the best. He frankly states that his opposition to the cylindrical bale is because he does not think this method of putting up cotton would be to the advantage of the cotton producers and the Southern mills. The Southern mills now use about 10 per cent. of the American crop, and until recently they used a much smaller proportion. The discussion, therefore, in so far as it concerns the interests of manufacturers, should be upon a broader plane. The greater portion of our crop which is not used by Southern mills is 'compressed' at the large interior cotton centres or at the ports before it is shipped to Europe or the North. The loss in weight incidental to 'compressing' and in transportation is a serious objection to the old-style square bales, but the Southern mills have practically no experience of this, as they never buy 'compressed' cotton, and the little cotton which is shipped to them is carried such comparatively short distances that the loss in weight in transportation must be very light. I would not for a moment think of entering my mere assertion against any statement of fact or of theory advanced by Colonel Orr, for he is so widely and favorably known that I could not hope to obtain a respectful hearing. I have carefully studied the progress of the cylindrical bale from its inception, and have thoroughly believed from the start that the principle of expelling the air from the cotton while the bale was being packed was a wonderful improvement over the old plan of packing the cotton in 'planter's square bales' and then having three-fourths to seven-eighths of the bales 'compressed' at large interior markets or at the ports to reduce the size of the bales, so that cars and vessels could carry more of them. This second pressing not only involves the expense of the operation (about fifty cents per bale), but also causes loss in weight from the 'clipping' of the iron ties in order to shorten them, the removal of 'side pieces' of bagging which are no longer needed to cover the smaller bale, and the inevitable loss of cotton in hand-

ling at the compress. The loss in weight at the compress from all the causes named will average four pounds per bale. Any method of baling cotton which can save the expense of 'compressing' again, with its attendant and inevitable loss in weight, is undoubtedly a positive and great improvement. The value of cotton is the price it is worth to the spinner delivered at his mill. That price is made up of what is paid to the planter for his cotton and all the subsequent expenses of brokerage, freight, insurance, drayage, storage, sampling, classing, compressing, loss in weight, etc. It makes no difference to the spinner in what manner the cost to him of the cotton is divided between the price paid for the cotton itself and the amount subsequently paid for freight, insurance, drayage, etc. The greater the cost for transportation and 'handling charges' the less there will be left for the cotton itself from the price which the spinner can pay for the cotton delivered at his mill. The converse of this proposition is also manifestly true, that just to the extent that the expenses for transportation, for loss in weight and for 'handling charges' are diminished the price which the farmer will receive for his cotton will be increased.

Shipments to Europe.

"On shipments of cotton to Europe the usual terms are that the price named is to cover the cost of the cotton and the freight and insurance to destination, subject, however, to a deduction from the weight of 6 per cent. for tare and loss in weight. The deduction of 6 per cent. is made because spindles cannot possibly spin jute bagging and iron ties nor the cotton which has been lost or stolen from the bales. All cotton is sold in Europe by net weight, and 6 per cent. deduction from the weight of American bales has been fixed upon as a figure which will amply protect the spinners. It more than protects them. There can be no manner of doubt that the shippers to Europe pay 6 per cent. less for our cotton than they would pay if they did not have to make to their European correspondents an allowance of 6 per cent. from the weight. No sane man can suppose that the shipper loses the 6 per cent., for at seven cents per pound for cotton it would amount to over \$2 per bale, or about four times as much as a fair brokerage on the transaction. It is perfectly evident from this custom of the trade that the cotton planter actually sells his cotton at net weight and bears the entire expense of the cost of the bagging and ties. He not only gets no pay for bagging and ties, but actually pays for the loss in weight from compressing and the present defective methods of baling cotton, inasmuch as he has to submit to an allowance of 6 per cent., which is about thirty pounds per bale, when the actual weight of bagging and ties is only about twenty-two pounds.

"The cotton-grower is certainly benefited by every reduction in the expenses on cotton from the time it is ginned until it reaches the mill. If vessels and railroads do not have to pay for compressing cotton they will accept lower rates of freight. If the risk of fire is lessened (and many fires are caused by the friction of iron ties), and the losses from 'country damage' and from obliteration of marks are practically eliminated, then the rates of fire and marine insurance will be greatly reduced. The cost to marine companies of the insurance against 'country damage' is estimated by them as one-quarter to one-half of 1 per cent.

"Cotton is not any less valuable to spinners because of a reduction in freight and insurance and handling charges. A given quantity of cotton will make just

as much yarn or cloth at one rate of freight or insurance as another, but every saving in freight, insurance and other charges enures to the benefit of the cotton-grower, as it enables the shipper to pay that much more for the cotton itself.

"When cylindrical bales were first put up the laps of cotton were wound tightly around an iron rod (or core) running through the centre, and I was opposed to that style of bale, as the expense of getting the cotton from the metal core was considerable. The use of metal 'cores' of varying weights was a practical and serious objection, as it made it difficult to determine the actual tare of the bales. Then it involved the payment of freight on these practically useless metal 'cores.' If Colonel Orr has actually had any cylindrical bales in his mill, I think they must have been of the old style to which I have referred.

Making the Bale.

"The present style of cylindrical bale is made by compressing the lint between iron rollers as it comes from the gin, which process forms the cotton into a continuous lap or roll of such thickness and density as may be desired. The compression by the rollers forces nearly all of the air from the cotton, which is immediately by appropriate machinery wound under a pressure of about 1000 pounds per square inch around an iron rod or core until the proper size is reached, when the bale is released and the iron core withdrawn. With the air practically all pressed out of it the tendency to expansion does not exist as in the old-style square bale, in which the air is simply compressed within the bale and kept from its natural tendency to expand by the iron bands or ties which encircle it. With the square bales there is a constant struggle for expansion by the imprisoned and compressed air, with the result that the iron 'ties' are continually being forced off. When a 'tie' (or band) gets off then the bale naturally bulges out by expansion, and this involves expense for mending and causes the bale to occupy thereafter more space, as it cannot be restored to its former shape without being put in the press again. The cylindrical bale has no iron bands or ties to hold it together. The iron ties add to the weight of the square bales and thus increase all transportation charges, and fires sometimes occur from friction of the metal bands with those of other bales.

"The old 'ties' which accumulate at many mills cannot be put to any useful purpose, and are usually sold as old iron for a trifling sum. To dispense with the 'ties' would be to get rid of a wasteful and useless expense and to reduce to some extent the risks of fire. The cylindrical bales as now put up are covered with light but closely-woven burlaps, secured to the bale simply by being sewed at each end. The weight of the burlaps is not over five pounds per bale. No ties or wire are used to secure the bale, so that the actual tare is only the weight of the burlaps. The bales as now made are four feet long and two feet in diameter. The length permits two bales to be placed end to end in the width space of an ordinary freight car (eight feet three inches). By an improvement in the method of putting up the bale the density is no greater in the centre of the bale than elsewhere.

"Colonel Orr says the cylindrical bale 'presents several serious disadvantages to manufacturers who use uncompressed cotton,' these disadvantages being that, on account of the greater density of the cylindrical than of the uncompressed square bale, that it would take 'much more time, trouble and expense' to open up in the mill the former than the latter. With the exception of the cotton used by

our Southern mills, which is about 10 per cent. of the crop, nearly all of our cotton is compressed before it reaches American and foreign spinners, so that the matter of the expense of opening up cylindrical bales at the mills should be compared with compressed bales and not with uncompressed bales. I might say, too, that this branch of the subject should be viewed in the relation of the greatest good to the greatest number. Colonel Orr states that in the 'pressure to which the round bale is subjected, the fibre, which is hollow, is mashed flat and thereby irreparably injured.' He adds: 'The object in manufacturing cotton is to lay the fibre smooth and even. If it is allowed to remain in a round bale for any considerable time it retains the curve into which it is forced and becomes extremely difficult to handle, and makes additional waste and loss in every process through which it passes.' To these objections of Colonel Orr to the cylindrical bale, from the point of view of a cotton manufacturer (and it is to be noted that he urges no other objections from that standpoint), I can best reply by quoting from letters recently sent me by the treasurers of very large and well-known New England mills. Mr. Chas. L. Lovering, treasurer of the Massachusetts Cotton Mills, of Lowell, Mass., informs me that the 'comparative expense in the opening-room of opening up cylindrical bales and old-style bales is one-third less on the former. The staple is alike all through the bale, and the new bales (forty-eight inches) are very soft in the centre.' He states that 'the bales are covered with burlaps the average weight of which is five (5) pounds per bale, and thus far in our experience there has been no loss in weight of cylindrical bales from the invoice weight. The average loss in weight of old-style bales from invoice weight is four and one-half (4½) pounds and the average tare on old-style bales twenty-six pounds. The burlaps is eighteen inches wide, and being too narrow for baling brown cotton goods, is sold for one-half to three-quarters of a cent per pound. The bagging from old-style (square) bales is sold for sixty-five cents per hundred pounds, and the iron ties at twenty-five cents per hundred pounds.' At these mills the cylindrical bales are opened up by a machine made for the purpose at a cost of not over \$50. This machine unwinds three bales at the same time. In the machine at the Massachusetts Mills some old material was used, but it is safe to say that such a machine would not cost over about \$75 if made entirely of new material. Hon. T. Jefferson Coolidge, treasurer of the Amoskeag Mills at Manchester, N. H., the largest cotton mills in the country, advised me on September 23 that 'two of the round bales were worked by themselves and the yarn made from them tested fully as strong as our regular work. If the staple is injured at all it can only be near the centres of the bales. We can test this by using the cotton from the centres of twenty to thirty bales by itself.' I requested that such a test should be made, and on October 27 Mr. Coolidge wrote me again as follows: 'From the report made to me this morning I gather that the staple of the cotton in the round bales which I have had opened at the Amoskeag has not been injured any more than it is in the old-fashioned bales.' Mr. Coolidge also states that 'there is practically no loss in weight from the invoice weights of round bales. The old-style (square) bales lose at least five (5) pounds per bale. Average weight of bagging and ties of square bales, twenty-two pounds. The bagging of square and round bales is sold for waste at one-half a cent per pound.

The 'ties' are sold for twenty-five cents per 100 pounds. Average weight of bagging on round bales, four and four-fifths pounds.'

"Mr. J. Howard Nichols, of Boston, treasurer of the Dwight Manufacturing Co., writes me that the average tare on the cylindrical bales received at his mills is five (5) pounds, being the weight of the burlaps. Messrs. Haughton & Co., cotton brokers, of 70 Kilby street, Boston, who have been favorably known to the cotton trade here and in Boston for at least twenty years, wrote me September 23 as follows: 'The difficulty of unrolling, known as "hard centres," is entirely overcome in the new bales. This was one of the chief objections in the original bale, as it involved delay and extra labor in unwinding. Several mills in Lawrence and Lowell have set up machines for unrolling the bales, one of which we have seen, which demonstrates beyond a doubt that labor can be saved in the handling and opening of the round bales compared with the old square bales. Last year and the year previous we sold the round bales at one-eighth of a cent over the price of similar cotton in square bales. The bales received this season are in every way more desirable under the new methods of baling, and our sales indicate a full one-fourth (¼) cent per pound premium on the ruling prices of cotton in square bales.' Colonel Orr thinks the cylindrical bales cannot be sampled and that these bales and the square bales should be sampled every time ownership changes until they reach the mills. I reply to this by quoting from a letter written to me by Messrs. Haughton & Co. on April 6 as follows: 'The round bale can be sampled as readily as the ordinary compressed bale, and we have seen a number sampled, but the object of the American Cotton Co. is to establish a guaranteed sample that will represent the bale, to prevent the necessity of cutting the sample hole and thus prevent plucking and stealing. We sold last year more than 5000 bales of this cotton to more than twenty mills on guaranteed samples, and in no case had we any claim. The difficulty in unwinding has been entirely overcome in the new 48-inch bale, and our mills are well satisfied with them.' I have in my office a sample drawn from a cylindrical bale, and all who have seen it declare that it is in every way satisfactory. Cotton does not change in quality or grade, and when fairly and honestly sampled need not be sampled again. The inspection bureau of the New York Cotton Exchange samples and inspects cotton and issues certificates of its classification, which it guarantees for one year from their date. Hundreds of thousands of bales of cotton are sold over and over again here upon these certificates without being resampled and reclassified. The cotton having once been sampled and classed properly, and by competent men, it would be regarded here as a burdensome and useless expense to sample and class it again at each subsequent transfer of ownership.

Question of Profits.

"By the letters from gentlemen of the highest character, and who are entirely disinterested, I think I have fully met Colonel Orr's criticisms in regard to the handling of the round bales in the mill, the supposed injury to the staple and the difficulty in sampling the bales. I think I have also made it clear that the cotton producer does not make a profit on the bagging and ties on his bales, inasmuch as the price he receives for his cotton is based upon a deduction of 6 per cent. from the gross weight. It makes no difference even if he sells his cotton to a mill not a mile from his ginhouse, as 70

per cent. of our crop is sold to Europe, and the European price, which is for net weight, controls and fixes the price everywhere in this country. The buyers of the cotton used in the United States (only about 30 per cent. of the crop) surely could not fix the price above the views of the buyers of the 70 per cent. even if disposed to do so, but I have never seen any evidence that our spinners were desirous of paying any more for cotton than their transatlantic brethren. If round bales should be universally adopted Colonel Orr thinks there would be a loss of \$50,000,000, being his estimated value of the gins and presses for putting up the old-style bales. I have not looked into this matter, but every improvement upon old methods is attended by loss on old machinery. Progress is never made without losses to some interests. If the adoption of the new process of packing and baling cotton should result in a net gain of \$2 per bale to the cotton producers, the entire loss on ginneries, etc., would be recovered to the Southern people in three years even should the amount be as much as Colonel Orr estimates.

"The point in Colonel Orr's letter which will attract most attention is the statement that the cotton producers of the South now make a profit of seventy-nine cents per bale upon the bagging and ties; that they would lose forty-eight cents per bale on the covering of the round bales, and that, therefore, the adoption of the round bales in place of the square bales would cause the Southern planters a loss of \$1.27 per bale, footing up about \$11,000,000 on a crop of 9,000,000 bales. I know Colonel Orr fully believed these statements, but nevertheless I think it can be clearly shown that neither are well founded.

"There is no valid reason why spinners should pay the price of cotton for the bagging and ties on it, which they sell for a fraction of a cent a pound when stripped from the bales, and they do not. European spinners simply deduct 6 per cent. from the gross weight of American cotton, and this amply protects them. The American buyers in turn deduct 6 per cent. from the price they would otherwise pay for the cotton, and the luckless planter is thus made to pay not only the entire cost of the bagging and ties, but also for the loss in weight in the compress and in transportation.

"Assuming that he apparently makes a profit of seventy-nine cents per bale by getting \$1.54 for bagging and ties weighing twenty-two pounds and costing him only seventy-five cents, is it not perfectly plain that in the loss of the 6 per cent. deducted by the buyer, as I have explained, that the planter suffers a reduction in price of \$2.10 per bale of 500 pounds, and thus instead of making a profit by selling his bagging and ties as cotton he suffers an actual loss of \$1.31? The cotton-growers of the South do not receive the price of cotton for their bagging and ties and make a profit of over \$7,000,000 a year by it, and I am glad they do not. All staple commodities are sold by net weight. What Southern man would think of paying the price of butter for the firkin in which it was packed, or the price of granulated sugar for the barrel containing it? Who would think it right to be asked to pay \$1.20 for a sugar barrel which cost the refinery about twenty cents? Is it any more defensible to try to make a large profit on the bagging and ties which have to be used to market the cotton?

Duck or Burlaps.

"In order to show a loss to the planter of forty-eight cents per bale on the bagging used on the round bale, against a

profit of seventy-nine cents per bale on the bagging and ties used on the square bale, Colonel Orr assumes that the round bales are covered with 'duck' weighing six pounds and costing ninety cents, for which he would get back the price of six pounds of cotton, say forty-two cents, thus losing forty-eight cents. This supposed loss is easily disposed of by the fact that duck has not been used as a covering for the round bales for some months. The bales are now all covered with burlaps weighing not over five pounds per bale and costing twenty to twenty-five cents for each bale. Col. Mike Brown, who has a plant at Barnwell, S. C., for putting up the new cylindrical bales, writes me on October 13: 'We use in baling the round bale 48-inch burlaps weighing about one and one-half pounds to the yard. It requires three (3) yards to the bale, at a cost of about twenty (20) cents per bale.' At seven cents per pound, the covering on a round bale would bring ten cents more than its cost instead of making a loss of forty-eight cents. I have shown that cotton in cylindrical bales sells in New England for one-fourth of a cent per pound more than cotton of the same grade in square bales. Col. Mike Brown, of Barnwell, S. C., writes me October 13: 'We pay from one-quarter to three-eighths of a cent more per pound for cotton ginned and packed at our plant than the market price of the same grade of cotton put up in square bales. We are enabled to make this difference on account of the certainty of there never being any claim for loss in weight, etc.' Colonel Brown also writes that 'the Carolina Midland Railroad (on which his plant is located) and its connections have put our cylindrical bales on the same basis as compressed square bales, a deduction of eight and one-half (8½) cents per 100 pounds being allowed from the regular rate for uncompressed square bales.' Colonel Brown says he takes the 'seed cotton' from the farmer's wagon and returns it to him ginned, pressed, baled and sampled at the rate of five or six bales per hour, charging for this work \$1.50 per bale, which price includes the burlaps. He estimates twenty cents per bale as the cost of the burlaps and \$1.30 for the labor and his profit. If the new system of baling cotton was in general use, cotton in cylindrical bales would undoubtedly bring a quarter of a cent more in every market than cotton in square bales. The result to the South Carolina farmer of the two systems would then be about this way on shipments, say, to Charleston:

A cylindrical bale of 500 pounds gross, at 6½ cents per pound, would sell for.....	\$31 25
Deduct the entire cost of ginning and baling.....	\$1 50
From this should be deducted the saving in freight of 8½ cents per 100 pounds over the square bale.....	42
	1 08

Net result, exclusive of selling charges \$30 17

A square bale of 500 pounds gross, at 6 cents per pound, would sell for \$30 00	
Deduct cost of six yards gunny bagging	42
Deduct cost of six steel ties..	18
Deduct cost of ginning and packing	\$1 25
	1 85

Net result, exclusive of selling charges \$28 15

"These statements show a gain to the farmer of \$2.02 by putting up his cotton in the cylindrical bales, but it will be noticed that I have made no deduction for loss in weight on the square bale, when everyone knows that there is nearly always a loss in weight in transportation. If we select Boston instead of Charleston, then it is evident that the square

bale would lose in weight fully five pounds, and thus the net proceeds would be thirty cents less than as above and the gain in favor of the cylindrical bale \$2.32, to say nothing of the probable greater saving in freight than forty-two cents. The price I have used as the labor cost for ginning and packing square bales is fair, my correspondent at Columbia, S. C., saying \$1.50; at Camden, S. C., saying \$1.25 to \$1.50; at Augusta, Ga., and Spartanburg, S. C., saying \$1. All agree in giving sixty cents as the cost of six yards of bagging and six steel ties.

"Colonel Orr thinks that as the machinery for packing and pressing cylindrical bales is more expensive than that for the uncompressed 'square bales,' the new style presses would not be sufficiently numerous throughout the country, and therefore that farmers would have to haul their 'seed-cotton' longer distances and at greater expense than at present, in order to have it ginned. I am informed, upon the best authority, that the company owning the patents on the machinery for putting up cylindrical bales will lease upon fair terms the necessary machinery for the erection of a 'plant' at any point where as much work as 2000 bales will be guaranteed. It may safely be assumed that plants will be erected for putting up cylindrical bales wherever there will probably be enough work to make the business remunerative. Even an old style public ginnery would hardly be erected upon the prospect of handling less than 2000 bales.

"The 'square bale' of cotton, compressed or uncompressed, is a reproach to American civilization. Every cotton merchant and spinner in Europe and all in this country who have investigated the matter know how incomparably better the Egyptian and East Indian bales are put up than the American bales. The great exchanges of Europe have repeatedly sent remonstrances to our cotton exchanges regarding the defective methods of baling American cotton and urged better methods. In my opinion it is to the best interests of cotton manufacturers, cotton producers and cotton merchants that radical improvements should be made in the manner of putting up American cotton for market. A very prominent firm of cotton factors in Augusta, Ga., wrote me recently as follows: 'We think if the (cylindrical) bale can be ginned, packed and covered at a cost not exceeding \$1.50 a great saving will be made to the farmers of the South. Should the railroads be willing to allow a standard rebate of eight and one-half cents per 100 pounds, and should satisfactory adjustment be made on the question of tare, and should the steamships be willing to receive the cylindrical bale on same terms as the square bale, then we believe the ultimate solution of the question of handling cotton will be found in this new method.'

"I conclude by saying that I entirely concur in the conclusions of my Augusta correspondents. Yours very truly,

"ALFRED B. SHEPPERSON."

Mr. Edward Atkinson.

Mr. Edward Atkinson takes something of a different line of argument, though to the same end. He writes:

"Editor of the Manufacturers' Record:

"Your letter of September 10, submitting to me the remarks of Col. James L. Orr on the round bale, came to hand during my vacation, which I spent on the other side of the Atlantic. You ask me to reply in detail to the remarks of Mr. Orr, which I will do to the best of my ability. I have great confidence in the ability, sincerity and judgment of Colonel Orr. I confess to great surprise in reading his views. I shall, therefore, deal

paragraph by paragraph with his objections.

"Colonel Orr begins on the following line: 'The question is much debated whether the proposed round bale of cotton is desirable. We should answer in the affirmative so far as the exporter is concerned, but in the negative as to the producer and Southern manufacturer.' Subsequently, Colonel Orr affirms that this method of packing injures the staple more than the present method of compressing. If that injury is proved none will find it out more quickly than the British manufacturers, whose average number of yarn is very much finer than our average number, and who must therefore demand that the cotton which they buy shall not have been injured by this new method of baling. Hence, if this method of packing injures the staple it cannot be for the interest of the exporter to approve it.

"Colonel Orr answers in the negative as to the producers, saying 'the producers who own the ginneries would lose the machinery now in operation.' I think there are not many cotton-growers or producers who now own their own gins. Have not the greater part of the old plantation gins been already displaced by the steam or power ginneries, working for a neighborhood, in which the cotton-growers, i. e., the producers, have no interest? Again, suppose it is true that the gin stands and presses which it is the purpose of the American Cotton Co. to put up should tend to the displacement of the gin stands, presses and compresses now in existence; how could that occur unless the processes of the American Cotton Co. are better, more effective and less costly than the present methods? If they are not, then they cannot succeed. If they are, then may not Colonel Orr be subject to the condemnation which he now imputes to the American Cotton Co.? By his skill, vigor and business enterprise he has put up modern cotton spinning and weaving factories to the destruction of the old type of Southern cotton mills. How can he justify himself for such a measure of destruction?

"Colonel Orr next states 'the present outfits, being inexpensive, are numerous and scattered over the whole cotton-producing section. The new system, being more costly and capable of greater work, would be further apart, and we must allow for the additional expense of hauling.'

"If I rightly understand the present condition of the work of the American Cotton Co., it has already simplified its press, reduced its cost and is prepared to offer presses corresponding to the work of two 80-saw gins. The more effective and widely-distributed plant may and probably will be less costly than the plant displaced.

Small Gin Stands.

"Would it not be to the benefit of all that there should be a widely-scattered system of small gin stands not exceeding two each, coupled with a press at a moderate cost, enabling producers to put up their own cotton, thus avoiding all the intermediate expenses of the compress and the like now standing between their gin stands and their customers?

"Colonel Orr next refers to an alleged loss which the producer would suffer in the new method of covering the bale. He says that the cotton-grower now buys bagging and ties at seventy-five cents, which he sells, if cotton is seven cents a pound, at \$1.54, making a profit of seventy-nine cents. I can hardly conceive how Colonel Orr can present this argument. It seems to me to be a common delusion which I should not expect him to share. There is a tare on all cotton

exported to Great Britain and, I think, to the Continent of Europe more than offsetting this element. I do not think Colonel Orr himself pays the price of cotton for the bagging. He is not so unskilled in the manufacture of cotton as not to keep his waste account in such way as to know to the fraction of a cent exactly what his net cotton, free of bags and ropes, costs him in his picker-room. He could never have been the successful spinner which he is unless he thus puts back upon the producer the whole of the waste of money which is involved in the heavy bagging, the heavy bands and the heavy ties with which Southern cotton is now infested. There is no word less strong by which to denounce the injurious effect of the ordinary jute covering upon the quality of the cotton contained within its injurious folds. I do not think any intelligent Southern farmer will fail to promote his own interest by adopting a method of covering cotton in a suitable manner whereby he may stop injuring his own staple by bad methods of packing and handling it, thus securing to his own benefit the full value of the fibre as it comes from the gin, much of which he and he only now loses.

"Colonel Orr remarks that 'the round bale would be an immense advantage to the insurance and railroad companies, but a terrible blow to the producer.' I cannot find any special advantage to insurance and railroad companies if they make, as they are making, concessions in freight and rate of premium corresponding to the improved and safer condition of the new bale. By these concessions all unnecessary charges are avoided, the railroads doing the work more effectively and safely, thus bringing the producer and the consumer nearer together to their mutual benefit.

Among the Manufacturers.

"Colonel Orr next remarks that 'while there is no question that the round bale is better protected and more easily handled than the square, it presents several serious disadvantages to manufacturers who use uncompressed cotton,' adding, 'in order to work cotton to the best advantage it is absolutely necessary to expose it to the air before putting it into the machinery, which is done in the opening-room.'

"I admit that there is a slight advantage in the use of uncompressed cotton, but what does it amount to? It only enables the Southern manufacturer who uses uncompressed cotton to limit the size of his opening and picker departments, thereby saving a very little capital in the original investment. How many Southern manufacturers are there who in fact limit themselves to the use of uncompressed cotton? The Southern manufacturer in the upland district who undertakes to spin fine yarn will, in nine years out of ten or thereabouts, be under the necessity of bringing Texas or bottom-land cotton from further south in order to work in competition with New England mills. Will he pay the extra charge for hauling uncompressed cotton, or will he so enlarge his opening-room and his picker-room according to the common practice long since established in Great Britain and now becoming established throughout the North, of having room enough to open cotton several days in advance of its going into the machinery, to the end that it may become 'air-slacked'? Air-slacking is merely giving the cotton room and time to expand. It gives opportunity for the elasticity of each fibre to exert itself in overcoming the temporary influence of excessive pressure. Had Colonel Orr ever had the experience which I have had in working 13,000 bales of East India or Surat cot-

ton, which is compressed in rectangular forms, I believe to about the same density now proposed by the American Cotton Co. for its round bale, I do not think he would have raised this issue. There is greater difficulty in opening India cotton or compressed cotton of the ordinary kind for immediate use than there is in the immediate use of uncompressed cotton, but it only needs more room and more time. That is all there is in this question.

That Terrific Pressure.

"The next issue raised by Colonel Orr is in the following terms: 'The "terrific pressure" to which the round bale is subjected instead of being an advantage, as claimed, is a disadvantage, for it is applied to a very thin layer of cotton instead of to the whole bale, as in the compress, and the result is that the fibre, which is hollow, is mashed flat and thereby irreparably injured.' This is a dogmatic assertion which I must meet with all due courtesy, and yet question whether Colonel Orr has ever given that attention to the actual form and structure of the cotton fibre which would be essential to the proof of his statement. (See diagram, Plate IV, from 'The Cotton Fibre and Its Improvement'.)"

"Before dealing with this subject I venture to say that the 'terrific pressure' is to be found in the compression now applied to the square bale and not in the pressure applied to the lap of the cylinder bale. There has been as yet no computation within my knowledge of the relative conditions under which this 'terrific pressure' is applied; therefore my reasoning must be hypothetical. I have witnessed the enormous, sudden and rapid action of the great compress on the square bale, which, I believe, is worked at many hundred tons, bringing the plantation bale in a few seconds down to the thickness of a plank, from which it reacts as soon as it is removed. Now, bearing in mind that the various locks of cotton and flakes of cotton in this bale are already more or less condensed, varying one from the other, and are all subjected to this very sudden and really terrific pressure, can it be doubted that there is a wrenching and tearing effected by which the staple may be broken, although not flattened? Is not the pressure required in making the round bale very much less at the time of its being applied, lap by lap, than the 'terrific pressure' of the ordinary compress? Is it not less liable to affect the form and structure of each fibre? That is my conviction.

"But I must take absolute exception to Colonel Orr's description of the cotton fibre. Prior to its maturity the cell or collection of cells of which the cotton fibre consists is round in section and is hollow, but in that form it cannot be spun even if dried. It is immature, and every spinner knows its faults. As the fibre approaches maturity it takes on by nature a new form; it becomes of the shape of a flat, twisted or convoluted ribbon, a little thicker at the edges than in the middle. It is no longer hollow; being already a flat fibre, twisted on its own axis, something like a corkscrew or a shaving, it cannot be 'mashed flat,' as a whole, but its convolutions might conceivably be flattened, that is to say, it is conceivable that a fibre of such a form might be flattened, not because it has once been hollow, but as a shaving may become flattened if put under pressure. That might be an irreparable injury if it could occur. I hold, however, that there is no conceivable pressure that could be applied either in the compress or the cylinder press, or in any other process preparatory to the use of cotton, that would affect the fibre in this way. If it did it would immediately show under the mi-

croscope and the cotton would lose its elastic or expansive property. Now, although there is an undoubted injury to the fibre of cotton in all of the various processes to which it is subjected, chiefly in the saw gin, but also in passing through the various machines of the factory while being drawn under heavy pressure, yet there has been to my knowledge no microscopic investigation by which any change, except of breakage or abrasion of the form and structure of the fibre, can be detected. This convoluted form and structure is so indestructible that if the paper made in part of cotton rags and in part of wood pulp be examined under the microscope the cotton fibre can be separated from the wood fibre simply through the maintenance of these convolutions; or, in other words, the original convoluted structure remains in the short sections even after it has been pulped. I regard that exception taken by Colonel Orr as without any foundation in fact. Whether or not the long maintenance of the pressure of the cylinder bale would make it any more difficult to work is one to be determined only by experience. It does not stand in the way of the ready working of the India cotton of a practically similar density. That the fibre is unimpaired may be fairly well inferred from the readiness with which a lap which has been for a long period under pressure recovers its original open and fluffy condition from mere exposure to the air without any other treatment.

"There has been upon my table a small cylinder in two parts, which I have had for more than one year, wound on the original Bessonet press to the density of fifty-eight pounds to the cubic foot, or more dense than oak wood. I will now proceed to unwind the outer section of the smaller cylinder, which has become air-slacked, and I will then enclose in this letter a section as it comes directly on unwinding from the densest portion. On pinching it with my fingers after unwinding so as not to lose even for an instant the effect of compression I find that this lap in the bale is about one-sixteenth of an inch in thickness, and when in that form is somewhat difficult to pull apart. When this lap gets to you, please state the condition in which you find it after it has been air-slacked on the way from my office to your office in an ordinary envelope, which will still hold it slightly compressed. Then lay it on your table for a day and see if you think that the fibre, one twelve-hundredth of an inch in diameter at its widest part, can have been injured or changed from an alleged hollow structure to a flat, mashed and, therefore, unelastic condition by the long continuance of the compression to which this sample has been subjected for more than a year at fifty-eight pounds to the cubic foot.

"I have not the exact data as to the matter of sampling. If the vendor of the cotton is not responsible there is absolutely no difficulty in sampling the cylinder bale. I need not deal with that question.

Minimizing the Middlemen.

"Colonel Orr says that the cotton must pass through from 'two to six hands before reaching its destiny.' I know of no reason why two to six hands should get their living out of the cotton between the field to the factory. I think the farmer ought to save a part of that and the cotton spinner the other part. When responsible companies or dealers in cotton, with ample capital, sell direct from the field to the factory on guaranteed samples the man who buys it may, as Colonel Orr remarks, 'buy a pig in a poke.' I should expect a result of that transaction corresponding to my own purchase

of 'pigs in a poke.' I am in the habit of sending an annual order direct to the gentleman who cures Smithfield hams in Virginia. I pay a higher price than I will pay for any other ham. I buy 'a part of a pig in a poke,' and it is just the kind that I want. I think the cotton spinner will find out, as I have found out who smokes the best hams and bacon, who packs the best cylinder bale, and will then be able to place as much dependence upon the sample as is now placed upon samples of Australian wool, which is so honestly, fairly and rightly packed that it requires no specific examination, bale by bale, or fleece by fleece, but can be safely bought on samples with entire confidence that all the wool will correspond. When Southern cotton is put up in the same way there will be a gain both to the producer and to the consumer. Then the factory, whether it be on the coast of New England, far away, in mere distance, from the bottom lands of the Mississippi or the strong lands of Texas, will be brought nearer to the cotton-field than the interior mills, whether in the Piedmont district of South Carolina or any other. The advantage of the Southern manufacturer has been alleged to consist in bringing the cotton factory near to the cotton-field. The cylinder bale brings every factory nearer to the cotton-field by one-half or more by lessening the waste of excessive freight money and the yet greater waste in paying for insurance on a type of cotton bale almost unfit to be insured.

"I submit these views subject to correction, because from the moment the first cylindrical cotton bale was submitted to me I named it 'the underwriter bale.' My profession for the last twenty years has consisted in making the prevention of loss by fire a science, to which I welcome every such simple and practical invention as the cylinder bale. When I saw the first cylinder bale I used some strong language to myself, because after all my study of the science of cotton—its production, the utilization of the seed and the like—I had overlooked this simple method of overcoming the evils of the ordinary cotton bale of our Southland, the present bale long since condemned as the worst form of package, while cotton now receives the most barbarous treatment from the field to the factory that exists in the known commercial world.

"But this cylinder bale, as I have stated to the promoters of the invention, is but the first step in the improvement of cotton. The saw gin is a machine unfit to exist for a moment longer than is necessary in handling our great crop. It is, in my judgment, the action of the high-speed saw gin which deprives the cotton fibre of the greater part of its strength and elasticity. It is an ascertained fact, or one so nearly proved as to be named a fact, that in the bleached and printed cloth as it comes from the factory or the bleachery and print works there is not exceeding 25 per cent. of the original strength of the cotton fibre when it left the field. I believe that the greater part of this injury is done by the high-speed saw gin. I also believe that the time is not far off when the roller gin, which is exclusively used on Egyptian cotton, will enable our Southern cotton-growers to produce long cotton equal in every respect to the Egyptian, while saving immensely when applied to every length of staple on the injury now done by the saw gin to cotton of the average length fibre. When that invention comes, by which the roller gin will be made as effective on quantity as the saw gin, some of us will again have occasion to use more strong language, applying it to ourselves in having overlooked the simple solution which is so apt to come almost by accident in

many lines of work. Will Colonel Orr then object to the substitution of a new method of ginning, because it will destroy the value of all the gin stands as they now are? I think not.

The Law of Progress.

"The law of progress is through the destruction of that which has been valuable property by way of the invention of better methods and simpler and more effective machines or processes, to the end that as time goes on the men and women who do the work in the cotton-field and in the cotton factory may secure to their own use and enjoyment an increasing share of their own constantly increasing product or its equivalent in the other necessities of life. It is the province of the capitalist to cope with all these dangers and to meet the destructive influence of the inventors who may eliminate time and distance in distribution and render vast masses of pre-existing capital almost worthless, while their own margin of profit is itself diminished and they themselves must exert more mental effort and work harder than they ever did before lest they should be left behind in the progress of humanity.

"I admit a certain loss of space in storing the cylinder form as compared to the rectangular, but it may enable each bale to season better. Yet the next invention may be an effective method of making up a square bale, lap by lap, which shall possess all the merit now claimed for the round bale. My only personal interest in this matter is that of an underwriter, publicly that of a student, and in my limited way a promoter of all the improvements, especially in the Southland, that may give to our common country the pre-eminence which we claim, but cannot always justify.

—EDWARD ATKINSON.

Professor Ordway's Opinion.

"P. S.—I had but just completed this memorandum when Prof. John M. Ordway, late of Tulane University, New Orleans, came in. No man in this country has made such a complete study of the form and structure and the botany of the cotton plant as Professor Ordway; none more competent to give direction to the future improvement of the cotton fibre on the logic of its own form and structure than he. I, therefore, submitted what I had written to him, with a sample unrolled from the cylinder of cotton, which has been for one year under compression to the density of fifty-eight pounds to the cubic foot, asking him to deal with the subject justly, giving regard only to the development of the facts. I have the pleasure of submitting his response to this request.

E. A."

Professor Ordway's remarks follow:

"It is true that the introduction of new ginning and pressing machinery would render useless the present gins and compressors, and so cause a temporary loss. By parity of reasoning, how ought we to execrate the scientists and inventors who have brought about the adoption of trolley cars, thus causing the street railways throughout the country to throw aside millions of dollars' worth of old cars and rails and horses and mules?

"As for the present coverings of cotton bales, they are acknowledged on all sides to be a disgrace to our country, for it would be hard to devise anything shabbier. There is urgent need of reform. If there were not the rolls of cotton could be covered in the same cheap manner, with a still greater apparent, but delusive and dishonorable, hope of gain.

"The only important question in the matter is whether the compression in the rolls is more injurious to the fibre than is that of the ordinary cotton press. Of course, it would be better not to compress

the fibre at all, and, therefore, to deliver it to the factories just as it is picked from the bolls and let them separate the seeds and the dirt. But practically very nearly all the cotton that goes to market is compressed and with a very sudden and violent pressure. Flattening a bar of iron by no means diminishes its tensile strength, and why should simply flattening a fibre of cotton have the contrary effect? The only thing to be feared is the creasing of fibres that are sharply bent, and though there are innumerable crinkles there are very few sharp bends in cotton that is properly ginned.

"We may theorize as much as we please, but the only way to get at the real truth is by fair experiment. Let two samples of precisely the same grade of cotton be respectively rolled out and compressed. Then, after the lapse of the usual time of transit, let them be picked and spun and woven by the same machinery, under the same atmospheric conditions, and test the resulting fabrics.

"This would give an answer as far as the manufacturing machinery now in use is concerned. But by some modification of the machinery very likely it would be found that one sample would work more easily than the other.

"The rolling of cotton is already past the experimental stage, and practical experience will soon show whether it is more desirable than the compressed. If the natural prejudices of users can be set aside we shall soon have data for a correct judgment. *Justitia fiat, ruat coelum.*

"I have read Mr. Edward Atkinson's paper on the compression of cotton and seen the samples to which he refers, and I fully agree with him in his arguments. I believe that microscopic examinations and tests will fully sustain his position with respect to the effect of pressure on the strength and elasticity of the cotton fibres, and I think when practical tests are made they will show that the rolled cotton is superior in many important respects to that which has been compressed in the ordinary way.

"JOHN M. ORDWAY.

"October 13, 1897."

ON A BUSINESS BASIS.

Common Sense Applied to the Round Bale Question.

The following article from the "Southern States Farm Magazine," and especially that portion taken from the Columbia (S. C.) State, so exactly covers the situation on the cotton-baling question as viewed by the Manufacturers' Record that we republish it. The views expressed by the State are not in the interest of monopoly, but of improvement and advancement. Because of these facts the Manufacturers' Record has persistently urged improved baling. The round-bale system must monopolize the South's cotton crop, but it can compel the better baling and handling of every bale raised, whether put into square bales or round bales, to the great profit of the producers. The "Southern States Farm Magazine" says:

"As the new round-bale cotton compresses are being erected here and there in the South criticisms of them are being renewed. Many of the alleged objections to them have been met and satisfactorily answered, yet they are again and again advanced, particularly at New Orleans, where there has been rather a spectacular campaign carried on. This was expected, but it was hardly believed that almost at the start the motives for the opposition would be so clearly revealed. In a recent issue the New Orleans Times-Democrat said:

"It is proposed that the backers and promoters of the round bale buy their

cotton direct from the consumer in the field, thus doing away with all middlemen. The cotton men here say that the system would result eventually in the trust people dictating terms to the producers of cotton."

"This so-called 'trust' scare seems constantly before the tripod of the Times-Democrat. But it may be asked whether that journal agrees with Mr. Lucien Voorheis, proprietor of the Compress Manufacturing Co., of New Orleans. A dispatch from Decatur, Ala., to the Birmingham Age-Herald says that Mr. Voorheis, in discussing the possibilities of the cylindrical-bale press, said 'that the combination of compresses and buyers in the South practically controlled the market,' and would not encourage the press to the detriment of the various compresses already established. So the market is already controlled? And the power of the middlemen who control it is threatened? Perhaps the best comment on this line is contained in an editorial of the Columbia (S. C.) State, which says:

"We do not know that there would be much lamentation by the producers of cotton if the middlemen generally were done away with. The staple has been made to support a great many more people than it ought to have supported. It has been sampled, and weighed, and bought, and sold, and resampled, and resold, and resampled, and exported, and resampled and rebought, and finally manufactured. Too many people have been making a living out of cotton, and the producer has had to pay them all. If he could sell direct to the consumer without reduction, actual or conventional, he would be more likely to get the real value of his product.

"Large interests have grown up about the handling of cotton, and it would be unpleasant—and doubtless injurious to many people—to have the succession of middlemen done away with; but, after all, that is the way of the world. Where a process is too expensive, invention gets to work to reduce the cost, and the cylindrical-bale machinery is as natural a sequence of expensive and wasteful methods as the typesetting machine is. Six-cent cotton cannot pay the tolls that twelve-cent cotton paid. Something must give way; somebody must go to the wall—the farmer or middleman. If the farmer does, there is no crop; so he is a necessity; he must stay. The logic of circumstances forces the middleman out. The cotton factor has already gone, in this part of the country at least. Other middlemen between the grower and the manufacturer must go, as the bringing of the mills to the cotton testifies. The foreign consumer must roll all his middlemen into one in order to meet on fairly equal terms the manufacturer-on-the-spot. The American Cotton Co., with its cylindrical bale, constitutes the middleman-rolled-into-one. It is a necessary development of the times.

"The only question is, whether this company, with its superior methods of packing and its readiness to pay higher prices than the ordinary buyer offers, is likely to monopolize the cotton-purchasing business and thereby control the price of the staple to the detriment of the producer.

"So far as South Carolina is concerned, this is impossible. Half the cotton crop of the State is bought by State mills. This cotton does not need to be packed in any special way. It is manufactured in the same neighborhood in which it is grown and purchased. There can be no such monopoly as would enable any one company, however great, to dictate the price here. Should the American Cotton Co. be the only outside buyer it would have in the purchasing field against

it some seventy-five South Carolina mills. Whatever may be the case in Texas and Louisiana, we in South Carolina are secure from oppression. So far from depressing the price of cotton, the establishment of the agencies of the American Cotton Co. would probably raise it in this State.

"As to other States less favorably situated, this may be said: They can secure competition and competitive prices by inventing machinery which will rival that of the American Cotton Co. We do not know what the patents are on the machinery for producing the Bessonetale bale, but we are pretty sure that Yankee, if not Southern, genius could circumvent them. If the round bale should come to have a monopoly somebody would bring out an octagonal or hexagonal bale, wound by processes somewhat different from the other, and thus would enter the field. No such rich thing as the round bale is alleged to be can long remain without competition. The demand must bring the supply. And when there is competition there will be full prices for cotton."

May Buy the Plant.

The report is again current that Sir Wm. Armstrong & Co., the ship and ordnance builders of England, are negotiating for the purchase of the Newport News shipbuilding and dry-dock plant. It is stated in New York that their idea in buying it is to take advantage of the impetus which shipbuilding in this country may be given. This concern is one of the largest in the world. It is now constructing fourteen naval vessels of different kinds, and it is claimed has orders for 900 rifled guns.

A West Virginia Yacht.

The handsome steam yacht "Madge," built at the Wood Engineering Works on South Side, Charleston, W. Va., was launched last week. The hull of the boat is sixty-six feet long, ten and a-half feet beam and four feet deep, drawing sixteen feet of water forward and twenty feet aft. It is made of steel, and is divided into five water-tight compartments. The engine is a compound-condensing high-pressure machine of original design and about eighty horse-power. Steam is provided by a Ward patent launch boiler of light weight but great power. The "Madge" is of a beautiful design, and of graceful lines in every particular. The cabin, which is finished in mahogany, is very complete, comprising a forward and after cabin, a buffet, lavatory and toilet-rooms. She is fitted up luxuriously as a cruising yacht, and has eight double berths and all conveniences for long cruises.

The business for the month of October was the heaviest in the commercial history of Savannah. The bank clearings showed an increase of \$1,250,000 over the corresponding month of 1896, and the movement of cotton was larger than ever before in the same period.

According to the calculation of the city building inspector, fully \$2,000,000 worth of new structures will be erected in Atlanta during the present year. During the month of October 136 building permits were issued, which is an increase of sixty-four over the same month of 1896.

The State Farmers' Alliance of South Carolina has called a meeting, to be held in Columbia in the near future, for the purpose of considering the question of next year's cotton crop and the attitude which the Alliance will take towards the production of cotton and the selling of futures. J. C. Willborn, of Columbia, is president of the Alliance.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Service to Winter Resorts.

The railway service for the benefit of Southern tourists will be superior in many respects to that of former years. It would seem as if the arrangements made for passengers by the Southern, the Atlantic Coast Line, the Seaboard Air Line, the Plant system and the Florida Central & Peninsular roads last year could not be equalled. Many readers of the Manufacturers' Record who traveled in the South will recall the magnificent vestibule trains of Pullman cars which ran direct from Jersey City and Washington to the principal resorts in Florida, Georgia and the Carolinas. The tourist from New York was carried to his destination at a rate of speed which ranged from forty to sixty miles per hour, while the appointments were such that he was afforded every comfort en route. This year, however, it is understood that the train service will be the best ever inaugurated between the North and South. The Florida Special, which is operated by way of the Pennsylvania Railroad, the Richmond, Fredericksburg & Potomac, the Atlantic Coast Line and the Plant system, will leave New York at 12.30 P. M., arriving at Jacksonville 1.30 P. M. the following day and St. Augustine, Fla., at 2.40 P. M., the entire run occupying but little over twenty-four hours. The Florida Limited train, which is to be operated over the Pennsylvania, the Southern and the Florida Central & Peninsular, will leave New York at 12.10, arriving at Jacksonville 1.10 and St. Augustine at 2.40. It is understood that the service this year will begin on January 17.

The Portsmouth Belt Line.

According to a dispatch from Portsmouth, Va., contracts have been let for the construction of the Atlantic & South-eastern Railroad, which is to be a belt line in the suburbs of Portsmouth, also for the necessary terminals. The road, which is to connect with all the railroad lines entering Portsmouth, will be about eight miles long. It will include a steel bridge about 800 feet in length, while at the terminus at Pinner's Point a pier 600 feet long by 250 feet wide is to be built, with several warehouses and the necessary railroad tracks. While all of the railroad companies are interested in the Belt Line, the principal promoter has been the New York, Philadelphia & Norfolk Railroad Co., which will use it in place of the barge transfer in Norfolk harbor, which is now in service. D. F. Keenan, of Philadelphia, has secured the contract for track-laying and a portion of the grading, while the Pencoyd Bridge Co., of Philadelphia, will construct the bridge.

To Store Electricity.

The Central Passenger Railway Co. of Baltimore has installed a storage battery in its power-house, which, it is claimed, will save a large portion of the electric current generated which under the present method is wasted. The battery consists of 265 cells, having a discharging capacity of 1000 amperes per hour. The surplus current generated for motive power by dynamos at the power-house is conducted to this battery by wires and stored until needed. The plant was put in by the Electric Storage Battery Co., of Philadelphia, and is similar to those in use in Philadelphia, Pittsburg and other cities. It is calculated that enough electricity can be held to operate the

system for five or six hours in case it is necessary to stop the machinery at the power-house.

Columbia & Maryland Reorganization.

The plans of the reorganization of the Columbia & Maryland Railroad Co. have been made public, and show that the new company is to issue \$3,000,000 worth each of first and second mortgage 5 per cent. gold bonds and \$4,000,000 in common stock. The first mortgage bonds are to be used to complete the railroad, and the second mortgage bonds will be issued in place of the original issue of first mortgage bonds, the latter amounting to \$2,261,000. A balance will be left of \$739,000, which can be used for other purposes. Of the stock, \$1,000,000 will be distributed among the holders of the original first mortgage bonds and \$750,000 will be given the purchasers of the new first mortgage bonds pro rata.

Southern Railway Praised.

Referring to the trip to the South of the New England mill men as guests of the Southern Railway, the Columbia State says:

"To the Southern Railway appreciation and thanks. Through its alert agents and through its intelligent liberality it has done a very great deal for the advertisement, the exploitation of this section, for the better understanding of the people, East and South. Years ago, when the road was consolidated into its present shape, the State, referring to it, argued that such a system would be of incalculable value to this city and section, for the reason that it would prove a powerful agency for the industrial advancement of the South. The result has proved it."

A Chesapeake & Ohio Enterprise.

The Chesapeake & Ohio Hospital Association has been organized for the benefit of the employees of the Chesapeake & Ohio Railroad. By the payment of a small monthly fee all members are admitted to the hospital, whether sick or injured, and will receive medical and other attendance free of charge. The railroad company has given the association the use of one of the best hotels upon its line—the Gladys Inn—which will also be furnished by the company for the use of the association.

Kansas City, Pittsburg & Gulf.

The annual meeting of the Kansas City, Pittsburg & Gulf Railroad Co. resulted in the re-election of A. E. Stilwell as president; E. L. Martin, G. M. Titting and E. T. Stotesbury, vice-presidents; E. S. Taylor, secretary and treasurer, and Robert Gillham, general manager. The board of directors voted in favor of appropriating \$1,000,000 for terminals, which, with the amount already available, makes the sum of \$2,500,000 to be used in these improvements.

Mobile & Ohio Terminals.

The Mobile & Ohio Railroad Co. has recently completed a large wharf at Mobile, which will add greatly to its terminal facilities. The wharf is 510 feet long and 148 feet wide, with ship room 450 feet long and 250 feet wide. The water at this point is twenty-three feet deep. Two railroad tracks have been built on the wharf, which will allow the unloading of cars directly in the vessels.

Merchants & Miners' New Vessel.

The steamship Juniata, recently completed for the Merchants & Miners' Transportation Co., is now ready for service, and will be placed on the line between Baltimore and Boston. The

Juniata was built by the Harlan & Hollingsworth Co., of Wilmington, Del., and is one of the finest of the Merchants & Miners' fleet. She is 270 feet long, forty-two feet beam and thirty-four feet in depth. The steam is supplied by a battery of four Scotch boilers, the engines being of the direct-acting compound type.

Galveston's Ocean Commerce.

During the period from September 1 to October 22, 110 steamships, representing 210,952 tons register, arrived at Galveston, Texas. This is an increase of twenty-four vessels over the corresponding period of last year, and fifty-four vessels over the corresponding period of two years ago. On October 22 sixty-nine steamships, having a carrying capacity of 500,000 bales of cotton, were in Galveston harbor. These figures, it is claimed, place Galveston at the head of the cotton-exporting cities of America.

Large Dry-Dock.

It is reported that the Kansas City, Pittsburg & Gulf Company has determined to erect the largest dry-dock in this country at its seaboard terminus, Port Arthur. It is understood that it will be large enough to accommodate vessels 500 feet long, and can be used with safety by the government to dock war vessels which enter the Gulf of Mexico. At present the only large dry-dock south of Hampton Roads is located at Port Royal, S. C.

Railroad Notes.

The Houston, East & West Texas Company has recently received seven locomotives to meet the requirements of increased traffic on this line.

The Ohio River Railroad Co. has determined to secure an additional number of freight cars, and is negotiating with the Ohio Falls Car Co. for the rolling stock.

W. J. Craig has been elected general manager of the Charleston & Western Carolina Railway Co., with offices at Augusta, Ga. He has been acting as general passenger and freight agent of the line.

A dispatch from Portsmouth, Va., states that the Seaboard Air Line is making arrangements to add several hundred new freight cars to its equipment on account of the increase in its freight traffic.

The monthly statement of exports from Newport News shows that 1,508,003 bushels of grain were sent out of that port during October. The shipments included 802,172 bushels of grain and 503,831 bushels of oats.

The Texas News and Illustrator, published at Houston, has recently made improvements in its appearances and the last number is handsomely illustrated and printed in colors. It is a credit to the railroad interests of the Southwest.

The annual report of the Southern Pacific Railroad Co., recently made public, shows net earnings of \$17,195,959, and a surplus, after deducting all charges of every kind, of \$1,350,239. There was a decrease in the net earnings of \$327,012.

The approximate earnings of the Georgia & Alabama Railroad Co. for the last week in October amount to \$31,230, and for the month to \$110,850. The monthly figures show an increase over the corresponding month of 1896 of about \$17,000.

The Norfolk & Roanoke River Steamboat Co. has been formed at Norfolk, Va., to operate a line between Norfolk and Plymouth, Jamesville and other points in Tidewater North Carolina. The

steamer George Hamilton has been secured for the business. J. J. Jones is manager of the company.

In a letter to the Manufacturers' Record, Mr. A. L. Strang, vice-president of the Missouri & Iowa Southern Railroad Co., states that he expects to begin construction work on this line about January 1. The first section of the road, which is to be fifty miles long, will be built first. It is to extend between Sedalia and Miami, Mo.

Judge Simonton, of the United States Court, has signed a decree for the sale of the Greenwood, Anderson & Western and the Carolina Midland Railroads. It is announced that the roads will be sold at Sievern, S. C., on December 1. G. H. Sass has been appointed commissioner of the sale. The two lines are operated as one, extending from Sievern to a point near Batesburg, S. C.

The November number of the Official Railway Guide contains many important changes in timetables, which indicate that the railway companies are beginning to adopt their winter schedules. In addition to these changes the Guide contains a large amount of valuable information, which makes it practically indispensable to the traveler. A great feature of this work is its uniform reliability.

The annual report of the San Antonio & Aransas Pass Railroad Co. has been published, and shows net earnings amounting to \$669,730, an increase of \$130,367. The total charges were \$845,805, showing a deficit of \$176,002. The indications for the coming year are for a largely-increased freight tonnage, owing to the crops in the territory through which the road is built and the increase in immigration to the State of Texas.

The arrival of the steamship Monarch at New Orleans has again broken the record for large vessels at that port. The Monarch has a capacity for loading 30,000 bales of cotton and 1000 head of cattle. She is a new vessel, and is owned by Messrs. Elder, Dempster & Co. Her tonnage capacity is 18,514. She is 484 feet long, fifty-six feet beam, and is operated by triple-expansion engines. The Monarch is one of the largest freight carriers which has ever visited an American port.

New Route to Klondyke.

In another column is republished from the New York Tribune an article describing the organization and purposes of the Northern Pacific & Alaska Mining, Transportation & Trading Co., the general officers of which are prominent in railroad and mercantile circles of Baltimore.

The Chamber of Commerce of Chattanooga, Tenn., has adopted a resolution congratulating President J. W. Thomas, of the board of directors of the Tennessee Centennial, on the success of the enterprise. The resolution compliments Mr. Thomas on the energy and ability which he displayed.

Winter Excursion Tickets on the Pennsylvania Railroad.

On November 1 the Pennsylvania Railroad Co. will place on sale at its principal ticket offices excursion tickets to all prominent winter resorts in New Jersey, Virginia, North and South Carolina, Georgia, Florida and Cuba. The tickets will be sold at the usual low rates, with the usual liberal return limits.

The magnificent facilities of the Pennsylvania Railroad, with its many connections, make this the favorite line for winter travel.

An illustrated book, descriptive of winter resorts, and giving routes of travel and rates for tickets, will be furnished free on application to ticket agents.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

TO GO UPON ITS MERITS.

Experience with the Round Baling Plant in Sherman, Texas.

Mr. J. C. Tassey, president of the Sherman Oil & Cotton Co., of Sherman, Texas, writes as follows to the Manufacturers' Record regarding the round baling plant there:

"We are putting up 100 to 110 round bales of cotton per day, and as soon as the other presses are ready for operation will put up from 250 to 300 bales per day. In our opinion, there is no comparison between the flat bale and the round bale. They are not in the same class. The press is almost mechanically perfect. With a ginning capacity of 100 bales per day, the first week we ran we put up 556 bales, very little delay being caused by the press. In regard to the first bale put up, it weighed 467 pounds, and had a density of thirty-five pounds to the cubic foot. We are now putting up bales weighing 470 pounds, with a density of a little over thirty pounds to the cubic foot. The only drawbacks to the round bale at present are that the spinners must be educated to know that they cannot expect to get 496 pounds net weight of cotton for the price of 470 pounds in the old bale, and the cotton exchanges will have to be educated so that they will make a contract covering the round bale, and the spinners in Great Britain will have to understand that their contracts will have to be modified to c. i. f. and one, instead of c. i. f. and six. When this has been accomplished the round bale will have the preference on its merits."

IN SOUTHERN FACTORIES.

Their Progress Astonishing Commission Men of Philadelphia.

The recent meeting of cotton-mill manufacturers in Philadelphia, while ostensibly a convention of the New England Association, was attended by many of the representative mill-owners of the South. As Philadelphia is a distributing point for a number of the largest Northern and Southern yarn and other textile mills, the comparative merits of the latter and the New England industries were quite freely discussed outside of the regular sessions of the convention. A representative of the Manufacturers' Record, in conversation with the head of one of the largest textile commission houses in Philadelphia, learned that firms in this branch of business are unanimously of the opinion, so often expressed in the Manufacturers' Record, that it is but a question of time when the South will supply all of the yarns and coarse goods used by plants of this country, while it will steadily increase in the manufacture of the finer fabrics. The fineness of the yarns now being made in the Piedmont section of the Carolinas, Georgia and Alabama is astonishing even the commission houses, who say that the Southern factories are steadily improving their products in this respect, and each season turning out better quality of goods.

When the question of cotton duck came up, it was conceded that two localities produce the finest not only in this country, but the world, and that no mills in New England could compare with the plants of the Woodberry (Md.) Manufacturing Co. and the mill at Columbia, S. C. In fact, it is claimed that, as between the Woodberry and Columbia mills, there is possibly a shade of difference in quality, and that is all.

Textile Notes.

The Double Shoals Cotton Mills, of Double Shoals, N. C., thinks of putting in dyeing equipment.

North Carolina has sixteen woolen mills, with 5038 spindles and 234 looms, and twenty-two wool-carding mills.

The W. R. Kindley Mill, of Mt. Pleasant, N. C., now operating 2872 spindles, contemplates increasing its equipment.

Mr. Richard Hockerille, of Alexandria, La., is endeavoring to form a stock company for the purpose of erecting a cotton mill.

It is estimated that North Carolina mills are consuming annually 50,000 more bales of cotton than are produced in the State.

The Tucker & Carter Rope Co., New London, N. C., intends to add cotton-rope machinery; company is now operating 150 braidiers.

The York Cotton Mills, of Yorkville, S. C., now operating 3120 spindles and 1600 twisters, contemplates adding 2496 spindles and 1200 twisters.

The Meridian Cotton Mills, of Meridian, Miss., contemplates putting in 200 additional looms; company is now running 6240 spindles and 202 looms.

The Jacksonville Hosiery Mill at Jacksonville, Ala., will be removed to Anniston. The company produces men's and children's hosiery and employs about fifty hands.

A movement is on foot at Fort Smith, Ark., for the erection of a 7500-spindle mill, and the Commercial League is endeavoring to secure the establishment of the enterprise.

The Abbeville Cotton Mills, of Abbeville, S. C., contemplates increasing its equipment to 15,000 spindles next year; company is now operating 10,080 spindles and 304 looms.

The Brooks Manufacturing Co., of Greer Depot, S. C., will at once put in the machinery for its proposed batting mill, noted last week. The plant will have a daily capacity of about 500 pounds.

Mr. F. W. Adams, of Pittsfield, Mass., writes the Manufacturers' Record that the report that he is about to remove his factory to Columbia, S. C., or any point in the South is not correct. The dryer-felt is used in paper mills, not in cotton mills, as had been stated.

Mr. J. F. Hanson, agent of the Bibb Manufacturing Co., Macon, Ga., reports that it is true, as reported previously, that he and associates have been investigating water-power property near Thomaston, Ga. If titles to the lands are found satisfactory it is probable that a cotton mill now in operation will be moved to the property. Mr. H. M. Comer, of Macon, is among those interested in this new enterprise.

The proposition of Mr. Samuel Hale, of the Dixie Mills, Douglasville, Ga., for the erection of a cotton mill in Savannah, Ga., is now under consideration. Mr. J. L. Whately, of Savannah, has become interested in the offer of Mr. Hale, and will endeavor to enlist the necessary capital to ensure the enterprise. It is contemplated that a company, to be called the Chatham Cotton Mills, be chartered, with capital stock of \$150,000, and issue bonds for \$150,000, and erect a mill of 15,000 spindles and 300 looms. To accommodate this machinery a building 400x150 feet, two stories high, would be needed.

A State convention for good roads and public improvements will be held at St. Louis on November 22.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

The Market for Cottonseed Products.

New York, November 9.

Cotton oil has declined seriously since our last, contrary to the expectations of both sides of the market, and as a result active trading has been a feature. The lack of ocean freight accommodation, the excitement consequent upon the elections and the fall in prices of other commodities contributed to the present depressed market conditions of cotton oil. The activity referred to consists more in domestic than export trading, as, owing to the abnormally high ocean rates due to the scarcity of freight room, this latter phase of the business has been checked. Western packers and refiners taking advantage of the favorable market, have bought liberally direct from the mills, and while prices are comparatively firm at primary sources, it is predicted, now that quarantine regulations are removed, the accumulations of oil soon to be offered will have the effect of weakening prices still further. Lard has been steady to firm during the week, closing at 4.40 cents, Chicago, January delivery. Tallow is weak, having declined slightly since our last. It is considered by some of the leading cotton-oil men at this market that the fall in prices is due rather to a concerted movement for the purpose of still further lowering seed values, rather than to other causes, although existing conditions in other respects have undoubtedly weakened the market. The chief break in prices is in summer yellow, as low as 21½ cents being quoted. The following are closing prices: Crude, prime, 19 to 19½ cents; crude, prime, f. o. b. mills, 14¼ to 16 cents; crude, off quality, 18 to 19 cents; yellow summer, prime, 21½ to 22 cents; yellow summer butter, 25 to 26 cents; yellow summer, off quality, 21 to 21½ cents; white summer, 24½ to 25 cents; yellow winter, 30 to 32 cents, and soap stock, ½ to ¾c. per pound. English oil (Liverpool) is quoted at 15/3. Latest reports from that country indicate that plentiful supplies of low-priced Egyptian seed will be available during the present season. Exports for the week aggregate 5450 barrels, of which 4000 were consigned to Trieste; receipts swelled to 9200 barrels, thus indicating removal of the embargo.

Cake and meal are moving more freely for export, while the demand abroad is good with firm prices. A consignment of 2000 bags meal is reported at this market. In this connection it may be observed a good field for the extension of trade in this line presents itself in Greater New York and vicinity. The value of cotton meal as a feeding stuff is practically unknown in the Eastern States.

Cottonseed-Oil Notes.

The cottonseed-oil mill at Seguin, Texas, started up last week and is consuming eighty tons of seed a day.

The exports of cottonseed oil to the continent of Europe during the month of October from the port of Galveston, Texas, amounted to 699,809 gallons, valued at \$197,036, and of cottonseed cake and meal 60,965,152 pounds, valued at \$560,128.

Cottonseed products in Texas show up favorably in the export trade, but the domestic demand is light. The Houston Post, of the 7th inst., quotes the mar-

ket weak at the decline, with demand limited. Price crude oil, loose, 14 to 14½ cents, and prime summer yellow oil 17 to 17½ cents; linters, per pound, 2¼ to 2½ cents; prime cottonseed cake and meal \$12.50 to \$13.50 per short ton, all f. o. b. Texas interior points, according to location.

Receipts of cottonseed products are larger at New Orleans and the market is about steady as to prices, with business quiet. There is a fair export trade. Receivers' prices are quoted as follows: Cottonseed, \$8 per ton of 2000 pounds net to the mills, no commission of any kind to be added; cottonseed meal jobbing per earload at depot, \$18.50 to \$19 per short ton of 2240 f. o. b. \$19.25 to \$20.25; oil-cake for export, \$18.50 to \$19 per long ton f. o. b.; crude cottonseed oil at wholesale or for shipment, strictly prime in barrels per gallon, 17½ to 18 cents; loose per gallon, 15½ to 16 cents, according to location of mill; refined cottonseed oil, prime in barrels per gallon, at wholesale or for shipment, 23½ cents; cottonseed hulls delivered per 100 pounds, according to location of mill, 10 to 15 cents; linters, according to style and staple—A, 3¼ cents; B, 3½ cents; C, 2¾ to 3 cents; ashes, none.

Iron Markets.

Cincinnati, O., November 6.

Sellers of pig iron have not made active efforts during the past week. Business has been quiet, and the energies of commission men and brokers have been devoted to getting forward iron on old orders. The car famine seems to be as bad as ever, and consumers fortunate enough to have a supply of pig iron are in many instances greatly embarrassed by lack of coke.

Stocks of iron in the South are decreasing rapidly, the principal producer having shipped 30,000 tons in excess of current output during the month of October. If other parts of the country have shared equally in the demand, October's decrease throughout the United States will nearly equal September's.

There has been a limited demand for all grades of iron, both coke and charcoal, Northern and Southern, but with few noteworthy transactions. It is hoped that the market will drift along until it is actually necessary for buyers to cover their future needs. Should a heavy buying movement spring up at this time, the tendency would be to force prices above their natural level. The holders of warrants most anxious to sell have apparently disposed of their holdings, for but little has been heard of offerings of that kind during the past week.

We quote for cash f. o. b. cars Cincinnati:

Southern coke No. 1 foundry...	\$10 00
Southern coke No. 2 foundry...	9 75
Southern coke No. 3 foundry...	9 45
Southern coke, gray forge...	9 25
Southern coke, mottled...	9 00
Southern coke No. 1 soft...	10 00
Southern coke No. 2 soft...	9 75
Belfont coke No. 1, Lake Sup.	11 00
Belfont coke No. 2, Lake Sup.	10 50
Hanging Rock charcoal No. 1...	14 50
Tennessee charcoal No. 1...	12 50
Jackson Co. silvery No. 1...	12 50
Standard Georgia car-wheel...	14 25

New York, November 6.

The market opened this week without any spirit or buoyancy whatever, but it closes showing improvement in that there has been a little better demand and buyers seem to have a better appreciation of the fact that pig iron is the cheapest material on the market, even at the present prices, which have advanced somewhat from the slump of July. The election locally excited naturally a great deal of interest, and, while the result has been a surprise to many, it could have no effect upon the general markets, as the conflict

was one entirely apart from any national problems.

There has been a good rainfall through the coke districts, sufficient to give promise of an abundant supply of coke. The general activity of the foundries and steel works is apparent on every hand and consumption is keeping well up, and the stocks in the hands of the furnaces continue to be reduced. The great wealth that came to the country in the abundant crops and the timely foreign demand for our cereals is beginning to be felt, and will continue to be felt throughout the country during the winter and the coming spring. Opportunities have not been afforded the tillers of the soil to give back into the currents of exchange the wealth that has been coming to them and is continuing to flow. Manufacturers of agricultural implements and farm equipments are realizing that the buying facilities of the farmer have been enhanced to an unusual degree.

Prices of pig iron continue to advance on the other side, and stocks are going off. The export business of the United States in its great diversity of products continues to expand, and if due care is taken by the American manufacturers that whatever they furnish shall be of the highest standard and quality, there will be, in all probability, no limit to the business that may be drawn from our far-off neighbors in every direction.

Money continues abundant and rates of interest are accommodating to the manufacturers, who, in the main, are enjoying satisfactory business. There is apprehension on the part of some that the present good conditions of trade may not continue, but so long as the general conditions of the country are so favorable, we can see no reason for retrograde movement, as values are in all lines conservative and entirely free from fictitious inflation.

We quote for cash f. o. b. New York:

No. 1 X standard Alabama...	\$11 00
No. 2 X standard Alabama...	10 50
No. 1 X lake ore coke iron...	12 50
No. 2 X lake ore coke iron...	12 00
Niagara coke malleable...	12 00
Standard Georgia charcoal...	15 50

Philadelphia, Pa., November 6.

Tuesday's elections were of such absorbing interest in this section as to interfere somewhat with business, as far as taking new business is concerned. Iron on old contracts is mostly being ordered forward faster than the original deliveries specified, and, judging from the standpoint of the shipper, business is surely quite active, with nothing to fear, as far as the outlook for next year is concerned.

We quote for cash f. o. b. Philadelphia:

No. 1 X standard Alabama...	\$11 50
No. 2 X standard Alabama...	11 00
No. 1 X lake ore coke iron...	12 50
No. 2 X lake ore coke iron...	12 50
Niagara coke, malleable...	12 50
Standard Georgia C. C.	15 75

ROGERS, BROWN & CO.

Improved Cooking Arrangements on the Pennsylvania Railroad's Colonial Express.

For the better accommodation of its patrons the Pennsylvania Railroad Co. announces that the Pullman buffet cars running on the Colonial Express between Washington, Baltimore, Philadelphia and Boston have been equipped with "broilers," so that steaks, chops, spring chickens and potatoes can be cooked and served hot from the stove. This is done by means of an ingeniously constructed gas stove, and it adds greatly to the conveniences of this very popular train. Orders given from the menu card will be served with promptness.

The Colonial Express leaves Washington, weekdays, at 7.50 A. M.; Baltimore, 8.50 A. M.; Philadelphia, 11.00 A. M., and arrives at Boston without change at 8.30 P. M. Returning, it leaves Boston, weekdays, at 9.00 A. M., arriving Philadelphia, 6.05 P. M.; Baltimore, 8.40 P. M., and Washington, 9.45 P. M.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., November 11.

The movement in all wood products in the local market has been moderate in volume during the past week and there has been no material change in the general tone. Receipts of lumber are fair, and in yellow pine stocks are fully ample for the demand. Box factories, planing mills and yardmen have been in the market during the week, but their purchases have generally been to fill immediate wants. In air-dried yellow pine the market is about steady with values unchanged. There has been a better demand for kiln-dried North Carolina yellow pine and a number of orders from out of town have come to hand. In white pine business is improving and the market is firm for all desirable stuff. Cypress is dull and easy with a light inquiry. In hardwoods the tone is more decided and the inquiry, both local and from out-of-town buyers, is better. Manufacturers and builders are buying more freely of certain woods for furniture and interior finish, and stocks are in some cases lighter than usual, while prices are firm for all desirable grades. The export trade shows but few indications of immediate improvement.

Charleston.

[From our own Correspondent.]

Charleston, S. C., November 8.

The market has ruled quiet during the past week and there has been less demand than usual. Shipments, however, continue to hold up well, and there is a fair domestic and foreign inquiry for all wood products. At all milling points adjacent to this city there is a very good business in progress and mills gets a fair share of orders sufficient to keep them employed. There is no improvement in prices, but at present values manufacturers are firm holders and refuse to make concessions. There has been considerable demand for railroad ties recently, and there is a prospect of some large shipments during late November or early December. On Saturday last the market closed steady, with merchantable lumber quoted at \$14 to \$16 for city-sawed, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad, \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. Shingles are in fair demand, with stocks not excessive, and prices range from \$4 to \$7, as to quality and condition. Among the shipments during the past week the following was reported: For New York, schooner J. H. Parker with 400,000 feet of lumber, schooner John R. Halliday with 305,000 feet, barkentine E. S. Powell with 470,800 feet, steamers Algonquin with 5583 feet and Comanche with 13,348 feet, schooner Waltham for Boston with 400,000 feet and steamer Delaware for the same port with 12,631 feet. The shipments of lumber and other wood products from this port since September 1 amount to 7,474,821 feet coastwise and 250,000 feet foreign, against 11,068,314 feet coastwise and 270,000 feet foreign last year. On Saturday last the steamship Dalmatia, for Hamburg, took out among her cargo 1128 pieces of walnut lumber, 13,947 pieces of oak lumber and 708 bundles of handles. Lumber freights are quiet, with no new charters reported. Rates are steady at \$4.38 to \$4.50 to New York. Dry railroad ties to New York,

11½ cents, basis thirty-six feet, and wet ties to Perth Amboy, 15 cents, basis forty-six feet.

Savannah.

[From our own Correspondent.]

Savannah, Ga., November 8.

A good demand and a fairly active market in all wood products has ruled during the past week. Lumber still makes a good record as to shipments, and as in cotton, naval stores, phosphate and other products, the movement has not yet attained its maximum activity. The situation, as viewed by manufacturers and others in the lumber industry, may be called fairly satisfactory as to volume, while prices are not yet what could be desired. Accounts from all milling sections adjacent to this port are very encouraging, and millmen generally have all they can do to fill orders promptly. The market here at the close of last week was very steady, with fair receipts and values not materially changed. Ordinary sizes were quoted at \$10.50 to \$11; difficult sizes, \$12 to \$14; flooring boards, \$15 to \$17; shipstuff, \$14.50 to \$18, and sawn ties, \$9.50. Among the shipments during the past week were the following: Schooner Mary Freeland for New York with 238,597 feet of pitch-pine lumber by the Georgia Lumber Co. The steamship Itasca cleared for Baltimore with 90,217 feet of lumber and other cargo; steamship D. H. Miller, for the same port, with 92,962 feet and 31,851 feet for Philadelphia; the steamers Nacoochee took out 131,589 feet of lumber; City of Augusta, 134,898 feet, and Kansas City, 69,644 feet of lumber, 67,000 shingles and 5500 staves, all for New York. The steamship Gate City sailed for Boston with 5912 feet of lumber and 4012 staves among her cargo. Lumber and timber freights are firm at ruling rates. From this and nearby ports of Georgia rates are quoted at \$4 to \$4.50 for a range including Baltimore and Portland, Me. Railroad ties, basis forty-four feet, to Baltimore, 12 cents; to Philadelphia, 13 cents, and to New York, 13½ cents. Among the charters reported in New York last week were the following: A British bark, 947 tons, from Savannah to Santos with lumber at or about \$14; schooner Clara Goodwin from Fernandina to New York with ties at 15½ cents; a British schooner from Fernandina to St. Lucia with lumber at \$6.50, and schooner Fannie Kimmey from Fernandina to New York with lumber at \$4.50.

Brunswick.

[From our own Correspondent.]

Brunswick, Ga., November 8.

At no South Atlantic port during the month of October has there been greater activity shown in all wood products than at this. The rapid strides made by this port in a commercial way during the last decade is worthy of note, and the records of its monthly shipments during the current year gives to its commerce a position of stability earned under conditions more or less adverse at different periods. Of the primary industries here, that of lumber and timber occupies a most important position among the ports, and the steady improvement in this line stands out boldly among that of other industries. The Times, in its review of the lumber and timber trade of the port, as compiled by Capt. Otto Johamessen, for the month of October, 1897, says: "The shipment of lumber and timber for the month amounted to 14,215,000 feet. If we figure in the crossties as lumber, as is frequently done, we find a total of 23,000,000 feet. But, counting the crossties separately, we have enough lumber on the list to exceed all previous months' records. The shipment of crossties for the month amounted to the unprecedented

total of 201,201. The nearest approach to this was in December, 1896, when 136,368 ties were shipped. The 201,201 makes a world's record. During the month Manager Arthur Gregertsen, of the business at this port of J. E. Broadhead, shipped 115,000 crossties. This smashes the record of shipments in one month by any one firm." The demand for lumber, both foreign and domestic, continues active, and the various saw mills here and at adjacent milling points are generally fully employed. Prices for desirable lumber show a firmer tone, and manufacturers and others in the trade are very much encouraged by the outlook. The crosstie industry is showing up remarkably well, and the demand is most decided, as shown by the report of shipments for October. For the present month there is a good volume of business predicted, and the numerous charters given below are most favorable for another month of activity in nearly every avenue of the lumber and timber trade: A schooner, 400 tons, from Satilla to New York with lumber at \$4.75; schooner Fred Roessener, 344 tons, from Brunswick to Newburg, N. Y., with lumber on private terms; schooner Gladys, 646 tons, from Brunswick to New York with ties and lumber, basis 16 cents on the former, 75 M feet per day loading and 40 M discharging, and a schooner, 360 tons, Brunswick to New York with lumber on private terms.

New Orleans.

[From our own Correspondent.]

New Orleans, La., November 8.

The volume of business in nearly every department of the lumber industry, both here and at points along the various lines of railroad entering this city, was very satisfactory for the month of October. The improvement in all branches of trade is also more decided, as cooler weather and the letting up and modification of the quarantine system is proclaimed at all adjacent points. So far as the lumber trade is concerned, it has not been affected to any great extent by quarantine regulations, and, with the exception of shipments to Texas points, trade has not only progressed as usual, but has shown remarkable activity in both yellow pine and cypress. The Lumber Trade Journal, in its issue of the 1st, publishes letters from the Louisiana Cypress Lumber Co., New Orleans Cypress Co., Limited, Ruddock Cypress Co., Litcher & Moore Cypress Lumber Co., Jeannette Lumber & Shingle Co. and others, in which statements are made of orders plenty, business doubled for October as compared with a year ago, and all agreeing that the outlook is most favorable for future business. The new schedule of the Southern Lumber Manufacturers' Association went into effect on October 18, and the list shows an advance all along the line, while the price of cypress has advanced \$1 per thousand on clear and selects during the last fortnight. The yellow-pine trade is in a very satisfactory condition, and orders have been coming in freely to all the mills here and at adjacent points. Prices are firm, with an advance on the better grades, while low grades are very steady as to values. There is at the moment every indication of a busy season among builders, and a number of buildings and other improvements are projected. The receipts of building material have kept up remarkably well, as shown by the report of the secretary of the Mechanics, Dealers and Lumbermen's Exchange of this city as follows: For the week ending November 4: Lumber 1,588,000 feet, shingles 10,000, laths 199,000, oak staves 36,000, cypress staves 65,000. The receipts of lumber for the season amounts to 19,832,000 feet, against 18,950,000 feet

last year. Nearly all building material shows an increase in the receipts over last season.

Lumber Notes.

The big saw-mill plant at Vinton, La., on the Southern Pacific, which was destroyed by fire last July, owned by Hon. H. C. Drew and others, will be rebuilt, and work is to begin at once.

A fire at Texarkana, Ark., on the 6th inst. destroyed four steam kilns, five lumber sheds and over 1,250,000 feet of lumber, the property of the Central Coal, Coke & Lumber Co. The loss is over \$100,000.

A charter was granted last week to the Santa Rosa Lumber Co. at Holly, Fla., with a capital of \$4500. The incorporators are James Hughes, Jr., Catran Lewis and J. W. Summer, who will manufacture, purchase and sell logs, timber and lumber.

The following shipments of lumber were reported from Mobile, Ala., during the past week: Bark Urania for Port Natal, Africa, with 422,902 feet; barkentine Skoda for Rosario, A. R., with 482,912 feet, and bark Belvidere, for the same port, with 520,268 feet.

The T. M. Richardson Lumber Co., of Oklahoma, O. T., is putting in two large planing and saw-mill plants near Horatio, Ark., on the line of the new Kansas City, Pittsburg & Gulf Railway. This company will open an office at Morris Ferry on December 1 and will ship to the North over the Port Arthur route.

There was shipped from the port of Darien, Ga., during the month of October coastwise and foreign 2,429,825 feet of hewn and sawn timber and lumber valued at \$24,892. During the month there was measured at the public boom 750,000 feet of square, scab and sawn timber. Large quantities were received and carried to private booms.

Secretary Dirmeyer, of the Mechanics, Dealers and Lumbermen's Exchange of New Orleans, reports the receipts of building material in that city for the week ending November 4 as follows: Lumber 1,588,000 feet, shingles 10,000, laths 199,000, bricks 494,000, oak staves 36,000 and cypress staves 65,000. The receipts of lumber for the season amount to 19,832,000 feet, against 18,950,000 feet last year.

The lumber trade at Beaumont, Texas, is reported quite active, with a better business than at any time since the winter of 1892. The export trade is improving, and inquiries are coming from Mexico, South America and Europe. The Reliance Lumber Co., of Beaumont, is furnishing cargoes of lumber for the schooners Luther T. Garretson, with 500,000 feet for New York, and the Starkis, for Mexico, with 250,000 feet.

The local lumber trade of St. Louis, Mo., is reported unusually active. Secretary Watson, of the Lumbermen's Exchange, reports the receipts of lumber at St. Louis for October at 75,682,000 feet, against 54,632,000 for the corresponding month of 1896. The shipments were 30,804,000 feet during October, 1896, against 46,176,000 feet for the same month in 1897. The gain in local consumption is 5,731,000 feet.

A process is said to be in vogue by which it is claimed that poplar can be made so tough as to require a cold-chisel to split it. The result is obtained by steaming the timber and submitting it to end pressure, technically "upsetting" it, thus compressing the cells and fibres into one compact mass. It is the opinion of those who have had experience with the

process that wood can be compressed 75 per cent., and that some timber which is now considered unfit for such work as carriage building, could be made valuable by this means.

The Manufacturers' Record has received the Joint Through Lumber Traffic No. 1300, just issued by the St. Louis Southwestern Railway. The work covers rates on lumber, staves, headings, etc., from all mills and stations in the company's timber district and connecting lines to all points east of the Mississippi river. It will be found invaluable to all parties interested in the lumber trade, and particularly to stave and millmen. The work shows remarkable labor and enterprise in its compilation, and is complete in detail and general grouping of rates.

Among the lumber and timber charters reported in New York last week were the following: Norwegian bark Concordia, 628 tons, from Pensacola to Rio Janerio with lumber at \$15.75, \$2 form, and from the same port Italian ships Indus, 1111 tons, and Gio Batti Brigneti, 941 tons, to Genoa with sawn timber at 93/9; ship Medea, 1066 tons, from Pensacola to the Baltic with sawn timber at 115/; a schooner, 199 tons, from Pensacola to Kingston, Jamaica, with lumber at \$6; bark Vidette, 495 tons, from Apalachicola to Philadelphia at \$5.50 and free wharfage, and a German ship, 1225 tons, from Ship Island to Guayaquil with lumber at 70/.

The usual activity characterized the movement in lumber shipments last week at Jacksonville, Fla. The market at that point is firm for all wood products, with prices tending higher. During the past week the following vessels cleared from that port with full cargoes: For New York, schooners James Davidson with 350,000 feet of yellow-pine lumber; May McFarland, 320,000 feet; Freddie Hencker, 375,000 feet; Aetna, 260,000 feet; Horace G. Morse, 253,000 feet. The schooner Alfred Brabrook cleared for New Haven with 375,000 feet; schooner Roger Drury for New Bedford with 300,000 feet, and the Annie for Chester, Pa., with 238,000 feet. The steamer Delaware sailed for Boston with 250,000 feet of lumber, 1000 crossties and other cargo, and the steamer Algonquin for New York cleared with a full complement of lumber and other wood products.

Personally-Conducted Tours via Pennsylvania Railroad, Season of 1897-98.

The personally-conducted tourist system of the Pennsylvania Railroad Co. is the highest perfection yet attained in railway travel; it affords all the comforts and conveniences of modern railway equipment, and at the same time eliminates all anxiety and annoyance inseparably connected with individual travel.

For the season of '97 and '98 it has arranged for the following tours:

California.—Four tours, leaving New York, Philadelphia and Pittsburgh January 8, January 27, February 16 and March 19. With the exception of the first party going and the last returning, all of these parties will travel by the "Golden Gate Special" between New York and California, stopping at interesting points en route.

Florida.—Four tours to Jacksonville will leave New York and Philadelphia January 25, February 8 and 22 and March 8. The first three admit of a sojourn of two weeks in the "Flowery State." Tickets for the fourth tour will be good to return by regular trains until May 31, 1898.

Tickets for the above tours will be sold from all principal stations on the Pennsylvania Railroad.

For detailed itineraries, giving rates and full information, address B. Courlander, Jr., Passenger Agent, Baltimore District, Baltimore, Md., or Geo. W. Boyd, Assistant General Passenger Agent, Philadelphia.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., November 11.

The condition of the local phosphate market, which moves in sympathy with other fertilizer ingredients, has shown the same quiet tone during the week. Manufacturers, both local and from out of town, are purchasing in small lots only for immediate necessities. From points of production there is little or no change in the situation in South Carolina, and the bulk of transactions is for local consumption. The market in Charleston is nominally steady, with prices unchanged. Shipments from Florida ports for November will not likely show much increase over October, which amounted to about 26,000 tons. The development in the Tennessee phosphate belt is more vigorous than usual, and prices about steady, with shipments, both domestic and foreign, of greater value. Prices at Mount Pleasant are about \$1.50 to \$1.60 f. o. b., and sales in this market, reported last week, show the inside figure after deducting expenses. The charter market is quiet in a local way and few vessels have been placed during the week. There is a light inquiry in New York for phosphate steamers and rates steady and well sustained. During the past week the British steamer Atlantic, 2001 tons, was chartered to load phosphate rock at Fernandina for Hamburg via Savannah on private terms, and the British steamer Casos, 1422 tons, from Tampa to Ghent with phosphate rock at 22/6.

Fertilizer Ingredients.

A quiet market has ruled during the past week and the demand for material is only moderate. There is some inquiry from Southern sources and the Western market is steady as to values. The late reduction in eastbound freights has caused a slight decline in tankage which, however, is only temporary. Transactions in bone meal and fish scrap are confined to small job lots. Sulphate of ammonia is firm with a light offering. Nitrate of soda is dull and easy.

The following table represents the prices current at this date:

Sulphate of ammonia (gas)	\$2 20 @ 2 25
Nitrate of soda	1 75 @
Blood	2 20 @
Hoof meal	1 90 @
Azotine (beef)	1 75 @
Azotine (pork)	1 75 @
Tankage (concentrated)	1 90 @
Tankage (9 and 20)	1 65 and 10 @ 1 70 and 10
Tankage (7 and 30)	16 00 @ 17 00
Fish (dry)	19 00 @
Fish (acid)	12 00 @

Phosphate and Fertilizer Notes.

It is stated that a new discovery of phosphate deposit, the richest yet found in the State, has been made on the State lands near Wilmington, N. C. It is pebble phosphate, and the bed is three feet thick.

The Tennessee Chemical Co., of Nashville, Tenn., which is largely engaged in the manufacture of fertilizers, has completed extensive improvements to its plant, and will commence operations on December 1.

It is said that the Roanoke Chemical Co., of Roanoke, Va., will soon remove its fertilizer works to Wilmington, N. C. Mr. W. I. Jones, the company's representative, visited Wilmington last week to complete arrangements for the removal.

It is stated that E. B. Hornady, of Americus, Ga., has just discovered a large deposit of kaolin on his farm, seven miles west of that city. Samples exhibited indicate that the kaolin is of fine quality, and he will at once develop the territory.

The schooner George R. Congdon

cleared from Charleston, S. C., for Barren Island with 611 tons of phosphate rock, and the schooner Warner Moore for Richmond, Va., with 660 tons. The total shipments of phosphate rock from Charleston, S. C., since September 1 amount to 13,192 tons, against 17,741 tons in 1895-96.

The British steamship Atlantic arrived at Savannah, Ga., on the 5th inst. from Fernandina consigned to Strachan & Co. She has a part cargo of phosphate rock, and will finish loading for Havre. The British steamship Ranmoor, from Fernandina with phosphate rock, finished loading on Friday last for Stettin with 650 tons of phosphate rock.

Messrs. J. M. Lang & Co. report the following phosphate shipments from the port of Savannah, Ga., for the month of October: Steamship Wastwater for Bremen with 1107 tons, by J. H. Packard; steamship Huron for Genoa with 1497 tons, by A. Newman; steamship Highlander for Hamburg with 2000 tons, and steamship Shurness for Legan with 1810 tons, by C. E. Abson, and steamship Feronia for Hamburg with 1908 tons, by A. Trubenbach, making a total of 8322 tons.

The shipments of phosphate rock from the port of Punta Gorda, Fla., as reported by Albert F. Dewey, president of the Charlotte Harbor Lighterage & Stevedore Co., for the month of October are as follows: Schooner Edward J. Berwind for Alexandria, Va., with 1520 tons, and the schooner James W. Fitch for Baltimore, Md., with 1398 tons, making a total of 2918 tons; previously reported 40,507 tons domestic and 51,140 tons foreign, making a grand total for ten months of 94,565 tons, all by the Peace River Phosphate Mining Co.

TRADE NOTES.

Machinery Sale.—Messrs. Reuter & Malory, of Baltimore, Md., are offering for sale an iron snatch-block, a 2½-horse-power Otto gas engine and a six-horse-power White & Middleton gas engine.

Pittsburg Office.—The Sullivan Machinery Co., of Chicago, Ill., manufacturer of drills, channelers, quarrying, mining machinery, etc., has established an office in Pittsburg, Pa., with Mr. George W. Favor as representative; offices are in the Schmidt Building, 339 Fifth avenue.

Heating Plants.—The Webster system of steam heating has been installed recently in large apartment houses at Washington, D. C.; hotel in Baltimore; hotel at Providence, R. I.; station buildings at St. Louis, and others. This system is made and installed by Warren Webster & Co., of Camden, N. J.

Heavy Locomotives.—The Cleveland, Cincinnati, Chicago & St. Louis Railroad has ordered from the Richmond (Va.) Locomotive Works a heavy consolidation locomotive. The company has also ordered three sets of cylinders to convert that many of its simple engines to the Richmond compound fuel saver, of which a number are already in service.

Electrical Contract.—The Electrical Engineering & Supply Co., of Charlotte, N. C., has received the contract for installing the electric-light plant to be established for lighting Elkin, N. C. The company deals generally in high-grade apparatus and supplies, railway plants, lighting plants, etc., having been organized recently for that purpose.

Machine-tool Works.—The new addition to the machine-tool works of Messrs. Dietz, Schumacher & Boye, of Cincinnati, Ohio, to which reference was made recently, will be a brick and stone structure 100x180 feet in dimension. Mr. Boye, of the firm, has returned from Germany recently and brought with him a number of orders that will keep the company's plant busy for some time.

Ball Engine.—The Ball Engine Co., of Erie, Pa., is in receipt of a letter referring to one of its 400-horse-power vertical engines, direct connected to a Siemens-Halske generator, which was installed in the plant

of the Nicopol-Maropol Mining & Metallurgical Co., in South Russia. The letter referred to the extreme satisfaction which the engine is affording the Russian company and the perfect mechanism of the machine is highly praised.

A 140-ton Crane.—A 140-ton crane is being erected at Newport News, Va., by the Newport News Shipbuilding & Dry Dock Co. The crane is to be used for placing boilers, engines and other heavy machinery on war vessels, etc., and it will have sufficient width to cover the largest of them. The crane revolves on a turntable, which is supported on a steel foundation twenty-five feet high, furnished and constructed by the Berlin Iron Bridge Co., of East Berlin, Conn.

TRADE LITERATURE.

Mechanical Dictionary.—Messrs. Houghton, Mifflin & Co., of Boston, have published "Knight's New Mechanical Dictionary," a description of tools, instruments, machines, processes and engineering, with indexical references to technical journals.

Power-press Catalogue.—Catalogue and price-list "A" for 1898 has been issued by the Waterbury Machine Co., of Waterbury, Conn. This is the company's first complete sectional catalogue of its power presses, comprising single and double-acting open-back and pillar presses, roll-feed and ratchet dial-feed presses, bench, horizontal, triple-acting and cam presses; cut-and-carry presses are also described.

Acetylene Gas.—Dr. W. H. Birchmore has written recently a history of acetylene gas and its utilization, which, while technical, gives a complete treatise on the subject of the gas in general. A booklet containing the history is now being issued. The description speaks of the study of carbides and acetylides which had in America and Europe, respectively, engaged the notice and study of interested men; refers to the experiments of the investigators who desired to make the hydrocarbon acetylene for commercial purposes and who failed to devise means for doing so. It is set forth that for all commercial purposes the process of making carbides is an American invention. To go into details, acetylene is the only hydrocarbon which is commercially obtainable unmixed with other hydrocarbons. Consequently, it is the only one that will burn to the ultimate elements of hydrocarbon combustion, carbon-dioxide and water when burning with a luminous flame freely in the air. Therefore, it is the only one which will burn without a smoke. The reason of this is, when a mixture of many hydrocarbons is fired, and all other gases are such mixtures, the hydrocarbons do not take fire at once, but in a definite order, and as the molecules fall apart under the influence of heat new molecules are made, until one is called lampblack, which does not break, and, therefore, cannot burn at the temperature of an ordinary luminous flame. This it is, heated by the combustion of a portion of the gas, which is rendered luminous when ordinary illuminating gas or kerosene oil is burned. If the heat of such flame is hot enough, as in Siemens's regenerative burner, this also breaks and part is burned, and the flame behaves, by reason of the artificial conditions of combustion, in the same way as the acetylene flame does naturally. When acetylene breaks up, owing to certain causes not germane to the question here, each atom gives off the same absolute amount of heat which it absorbed in the union with its fellows in the electrical furnace, and consequently the new molecules which are formed are exceedingly hot and luminous. All the hydrogen set free is immediately taken up by, or rather takes up, the surrounding oxygen of the air and thus protects the greater part of the carbon from burning. The carbon atoms therefore unite with each other, forming a kind of graphite, which at a white heat is easily attacked by oxygen; this graphite-like molecule contains no hydrogen, and therefore is not lampblack, and is so unstable that when it passes out of the water-envelope of the flame at the top, it is burned with a very pale blue flame, which is almost invisible to carbon-dioxide. The evolution of the dry generator of the gas is shown to have resulted in the introduction extensively of the Naphey generator, the sole American agents of which are Messrs. J. B. Colt & Co., of 115 Nassau street, New York city. The Naphey generator is automatic in its action, and is used for lighting dwellings, stores, churches, halls, villages, town and cities. The Naphey generator is especially adapted for the production and projection of light for stereopticons, lantern slides, etc.; for stage lighting, photo-engraving, etc.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

ALABAMA.

Bessemer—Iron Furnaces, etc.—A report, as yet unauthenticated, states that the Howard-Harrison Iron Co. will purchase more iron ore lands, open mines, erect two more iron furnaces and enlarge its pipe works; present capacity of this pipe plant is 200 tons daily.

Birmingham—Foundry.—Ike Adler and associates have organized the Southern Iron & Steel Co., with capital stock of \$25,000, and will erect at once a plant for general foundry and casting work; will employ fifty hands.

Birmingham—Bridge Works.—The Alabama Bridge and Boiler Works, now operating a plant, has been incorporated with capital stock of \$25,000, by W. M. Nalls, J. D. Moore and J. H. McCune.

Jackson's Gap—Gold Mines.—The Alabama-King Mining Co. has been reorganized, with capital stock of \$100,000, to open gold mines on a 200-acre tract of land.

Lewisburg—Coal Mines, Coke Ovens, etc.—The Jefferson Coal & Railroad Co. (successor to the Mary Lee Coal & Railway Co.) has completed its \$40,000 washing plant of 500 tons capacity daily, enlarged its mining operations and increased its coke plant to 132 ovens. The entire plant resumed operations November 5, output of coal being 750 tons daily; Messrs. James Sloan, Douglass Gordon and H. S. Jenkins, of Baltimore, Md., largely interested in the company.

New Decatur—Foundry Enlarging.—The Alabama Foundry and Machine Works will double its capital stock and enlarge its plant and operations.

Oxford—Ginnery.—W. F. McCully informs the Manufacturers' Record that there is no truth in the report that he and associates will build a ginnery.

Round Mountain—Chemical Works.—The Gordon Chemical Co. will improve and enlarge its plant, adding ten new ovens.

ARKANSAS.

Fort Smith—Cotton Mill.—Endeavors are being made to organize a cotton-mill company to erect a 7500-spindle plant. S. A. Williams, secretary Commercial League, can be addressed for information.

Gaither—Corn and Flour Mill.—Z. W. Murphy intends to erect and operate a flour mill (roller) of thirty barrels capacity and a corn-meal mill.*

Little Rock—Brick Works.—The Arkansas Brick & Manufacturing Co., reported recently as incorporated, has a plant in full operation making 60,000 daily, but it is intended that considerable new machinery be added with capacity of 40,000 per day for dry pressing; E. N. Weigel, general manager.*

Newport—Ice Factory.—Chartered: The Newport Ice & Cold Storage Co., by L. W. Cherry, B. W. Stainback, J. E. Doherty, W. A. Joyce, A. D. Bailey, L. E. Willis and L. A. Stainback. The capital stock is \$31,500, of which \$18,500 has been subscribed. The officers are L. W. Cherry, president; W. A. Joyce, vice-president; B. W. Stainback, secretary and treasurer. Address the secretary.

FLORIDA.

Fernandina—Packery.—The Cumberland Sound Packing Co. has been organized by W. J. Brooks and others and established a packing plant for oysters; will erect building 25x90 feet and room 30x40 feet and employ 150 hands, with capacity of 25,000 cans daily.

Orlando—Fruits, etc.—The Ideal Fruit & Tobacco Co. has been organized by George Wright, Mahlon Gore, Wm. H. Jewell and others, with capital stock of \$20,000, to cultivate fruit and tobacco.

Palatka—Bin Factory.—Walter Thomas has patented a grocers' bin and intends to engage in the manufacture of same; machinery and supplies will be wanted.*

Tampa—Cigar Factory.—The El Arte Manufacturing Co. has been organized to establish a cigar factory by Charles Dittmer (president), J. Van Lill, J. T. Miller and Walter F. Elmer, of Baltimore, Md.; company will employ 100 makers. Address company, on Armenia avenue, West Tampa, Tampa, Fla.

GEORGIA.

Americus—Kaolin Deposits.—A report says that E. B. Hornaday has found kaolin deposits on his farm near Americus.

Augusta—Pants Factory.—W. P. Hixon will establish a shirt and pants factory.

Augusta—Electric Plant.—The Augusta Street Railway Co. will expend \$25,000 in improvements to its electric plant, etc.; put in new turbine wheels, new dynamo (about \$5000), etc.

Augusta—Medicine Factory.—F. S. Van Felt, W. A. McArthur, John G. Van Pelt and F. T. Lockhart have incorporated the 7-11-77 Company, for the manufacture of patent medicines, etc.; authorized capital stock \$100,000.

Brunswick—Meal Mill.—The Downing Co. has established a meal mill of twenty-five sacks capacity daily.

Buford—Harness Factory.—The Buford Saddlery Co. has been organized, with capital stock of \$12,000, and John F. Espy, president; M. S. Garner, vice-president, and W. E. Vance, secretary-treasurer; purpose, to manufacture harness, etc.

Columbus—Cornmeal Mill.—The Empire Mills Co. states that it will not double its capacity, as has been reported, but is now making minor changes in its corn department and preparing to change its bolting system; H. L. Woodruff, vice-president.

Cordele—Foundry, Iron Works, etc.—William Fitz Simmons (late of Clinton, Ill.), will establish in Cordele an iron foundry, machine shops, novelty works, etc., erecting new buildings and putting in new machinery, and will employ thirty-five hands. Address William Fitz Simmons, care of Kutt's & Kennedy, Cordele, Ga.*

Cordele—Saw Mill, etc.—As reported last week, S. J. Hill & Bro. will erect a large saw mill to cut a tract of timber land lately purchased; mill is to have daily capacity of 30,000 feet of lumber; no machinery purchased yet.*

Madison—Electric-light and Water Works.—W. D. Thomas, of Savannah, Ga., contemplates the construction of water works and electric-light plants in Madison, and will make the city a proposition. Address Mr. Thomas or the mayor of Madison.

Marietta—Novelty Works.—W. E. Gilbert, H. W. Nicholes and R. N. Holland have incorporated the Marietta Novelty Co., with capital of \$2100, to manufacture novelties, etc.

Marietta—Paper Mills.—The Marietta Paper Manufacturing Co. has asked permission to increase its capital stock from \$150,000 to \$250,000.

Rising Fawn—Furnace, etc.—The Georgia Mining, Manufacturing & Investment Co. has reorganized under the name of the Southern Mining Co.; F. H. Connor, of Chattanooga, Tenn., general manager; company is now operating the ore mines at Rising Fawn, and expects to put the furnace in blast. (See Shellmound, Tenn.)

Savannah—Cotton Mill.—Samuel Hale, of the Dixie Mills of Douglassville, Ga., has made a proposition for the organization of the Chatham Cotton Mills of Savannah, Ga., with a capital stock of \$300,000, to erect a mill of 15,000 spindles and 300 looms. J. L. Whately, of Savannah, is endeavoring to meet the terms of the proposition.

Thomaston—Cotton Mill.—The report that H. M. Comer, of Macon, and associates have been investigating water-power property near Thomaston is correct. If titles are found satisfactory the probabilities are that a cotton mill now in operation will be moved to that point. When further developments are ready J. F. Hanson, agent of Bibb Manufacturing Co., Macon, Ga., can give information.

KENTUCKY.

Middlesborough—Iron and Steel Plant.—A dispatch dated November 8 states that the Watts Steel and Iron Syndicate will put in blast its No. 1 and No. 2 furnaces, and the steel plant (never operated before); 800 workmen would be required. (The correctness of this report is doubtful.)

LOUISIANA.

Alexandria—Cotton Mill.—Richard Hockerville is endeavoring to organize a company to build a cotton mill.

Crowley—Irrigating System.—The Miller-Morris Canal & Irrigation & Land Co., now engaged in constructing its system, has been incorporated, with capital stock of \$90,000, with William Miller, president; J. F. Morris, treasurer, and Ezekiel Miller, secretary. Address Dr. J. F. Morris, vice-president, etc.

New Orleans—Liquor Company.—Henry Block and others have incorporated the Henry Block Co., Limited, to deal in liquors, etc.; capital stock \$10,000.

New Orleans—Machine Shops, Engine Works and Boat Yards.—The Gardner Motor Co., Limited, has been organized, with Theodore Grunewald, president; J. C. Wenck, vice-president, and H. Wellman, secretary; these, with H. Gardner, are the directors. The capital stock is \$250,000, and the company will build shops for the production of the Gardner motor, construction of boats, etc. About 200 workmen will be employed. Address Theodore Grunewald.

Vinton—Saw Mill.—H. C. Drew and associates will rebuild their large saw mill which was burned last summer, causing a loss of \$45,000.

MARYLAND.

Baltimore—Printing Company.—Chartered: The Ivory Printing & Tag Co., by Francis B. Culver, George A. Peters, Henry P. Peters, Charles H. Hooven and Charles S. Hayden. The capital stock is \$3000.

Baltimore—Water-works Improvements.—Contract has been awarded to J. W. McKnight and F. F. Graham, at \$18,900, for the erection of stand-pipe tower at West Arlington; tower to be 95 feet high, 70x25 feet, and have capacity of 250,000 gallons. Contract for the steel stand-pipe has been awarded to New Jersey Steel & Iron Co. of Trenton, N. J., at \$26,570.

Leon—Bridge.—The Chesapeake Bay Railroad Co. will construct a bridge across the Patuxent river at Leon; L. H. Hyer, engineer, office at Fifteenth and H streets, Washington, D. C.

Rising Sun—Shoe Factory.—Dr. George S. Dare and H. H. Haines have completed negotiations for the establishment of a shoe factory, the machinery of which will be removed from Baltimore.

MISSISSIPPI.

Arcola—Cotton Gins.—Dr. F. A. Bizzell, J. S. Johnson, Sr., Sims & Williams and others have incorporated the Arcola Cotton Gin & Seed Co., with capital stock of \$6500, to erect cotton gins, etc.

Meridian—Cotton Mill.—The Meridian Cotton Mills, now operating 6240 spindles

and 202 looms, contemplates putting in 200 additional looms.

West Point—Water Works.—The city is about to contract for the reservoir for its water works; C. L. Jordan, mayor.*

MISSOURI.

Charleston—Electric-light Plant.—Incorporated: The Charleston Electric Light Co., capital stock \$20,000, by J. H. Moore, J. P. Bridges, E. G. Rolling and others.

Kansas City—Mining Company.—Incorporated: The Sam Randall Mining Co., capital stock \$24,000, by T. A. McClelland, J. F. Harwood and C. E. Cox.

Kansas City—Natural Gas Company.—William F. Kirkman and others have incorporated the Jackson Natural Gas & Oil Co., with a capital stock of \$50,000.

Kansas City—Railroad Shops.—It is stated that the St. Louis & San Francisco Railroad will erect a new roundhouse, shops and many miles of sidetrack, etc.; B. F. Yoakum, manager, St. Louis.

Linn—Mercantile.—Chartered: The Linn Mercantile Co. of Linn, capital stock \$15,000, by G. L. Finck, Herman Balkenbusch and J. Reinkemeyer.

Poplar Bluff—Woodworking Factory.—P. W. Prentice, of Hillsdale, Mich., contemplates the removal of his screen-door and window factory to Poplar Bluff.

Sedalia—Equipment Company.—Chartered: The Sedalia Construction & Equipment Co., capital stock \$10,000, by J. E. House, S. C. Gold, James Humphrey and others.

Springfield—Handle Factory.—T. E. Jackson will endeavor to organize a \$15,000 or \$20,000 stock company to erect a handle factory to replace the plant that was destroyed by fire recently. Address T. E. Jackson, Chillicothe, Mo.

St. Louis—Carriage Company.—Incorporated: The Union Carriage Co., capital stock \$20,000, by Charles Hefflinger, G. A. Low, C. E. Miller and others.

St. Louis—Laundry.—Chartered: The New American Laundry Co., capital stock \$15,000, by C. C. Hilsort, J. T. Truitt and L. A. Sherman.

St. Louis—Packery.—Wm. H. Gregg and others have incorporated the Gregg Geological Co., with capital stock of \$300,000.

St. Louis—Telephone Company.—Charles T. Farrar and others have incorporated the Missouri Automatic Telephone Co., with capital stock of \$100,000.

St. Louis—Aluminum Works.—Louis J. Creullus and others have incorporated the St. Louis Aluminum Casting Co., with a capital stock of \$25,000.

NORTH CAROLINA.

Asheville—Graphite Mines, etc.—The American Graphite Co. has been organized recently by Chicago capitalists to develop graphite deposits in McDowell county, near Asheville. Maj. George D. Miles is interested in the company, and letters to him addressed to Asheville will probably be delivered.

Double Shoals—Dyeing Plant.—The Double Shoals Cotton Mills is considering the installation of a dyeing plant.

Dunn—Telephone System.—The Dunn & Lillington Telephone Co. has been incorporated, to construct the fifty-mile telephone line between Dunn and Lillington, by G. K. Grantham, F. M. McKay, J. A. Green, W. F. Pearson, E. F. Young and others, as recently noted in this department; capital stock is \$5000. Dr. J. C. Goodwin can be addressed.

Elkin—Electric-light Plant.—The Elkin Electric Light Co. has franchise for lighting plant and has let contract for its erection.

Gilmerton—Lumber Mill.—The John L. Roper Lumber Co. is having plans prepared for an additional mill for its plant.

McDowell County—Graphite Lands, etc.—It is reported that the American Graphite Co. has purchased graphite deposits in McDowell county and will develop the property, erecting mining and manufacturing plants, etc. Definite address of the company has not yet been reported to this department, but letters addressed in care of Capt. H. M. Ramsey, Asheville, N. C., will probably be forwarded.

Mt. Pleasant—Cotton Mill.—The W. E. Kindley Mill contemplates increasing its equipment; now has 2872 spindles running.

New London—Cotton-rope Mill.—The

Tucker & Carter Rope Co. intends to add cotton-rope machinery.

Oxford—Tobacco Factory, etc.—The Turpin Tobacco Co. of Louisville and Owensboro, Ky., has established a branch in Oxford, under the style of Turpin & Wood; building has been secured and is being equipped with apparatus for ordering, blowing and drying.

Raleigh—Steamboat Company.—Chartered: The Merchants & Farmers' Steamboat Co., to operate boats on Cape Fear river and its tributaries. Capital stock is \$25,000. The incorporators are R. M. Melvin, G. H. Melvin, Richard R. Love, J. M. Thomas and A. Hocutt.

Wilmington—Chemical Factory.—The Roanoke Chemical Co. of Roanoke, Va., is removing its factory to Wilmington, as previously noted. The building has been secured and equipment is being installed to manufacture baking powders, soda, etc.; fifty hands will be employed. B. A. Jones, president, Fourth and Grace streets, Wilmington, can be addressed.

SOUTH CAROLINA.

Abbeville—Cotton Mill.—The Abbeville Cotton Mills, operating 10,080 spindles and 304 looms, contemplates increasing to 15,000 spindles next year.

Charleston—Printing Works.—Charter issued to the Lengnick Book & Printing Co., with capital stock of \$6500. The incorporators named are Henry A. Lengnick and Elizabeth Lengnick.

Charleston—Ice Factory.—The Mutual Ice Manufacturing & Cold Storage Co., reported last week as incorporated with capital stock of \$100,000, will build an ice factory and cold-storage plant; Wm. A. Wheeler, of St. Louis, Mo., president, and H. L. Luhn, of Charleston, secretary.

Columbia—Dryer-felt Factory.—The report, noted last week, that F. W. Adams, of Pittsfield, Mass., intended to remove his dryer-felt factory to Columbia was entirely incorrect, and such a move is not even contemplated, so Mr. Adams informs us. The dryer-felt is used in paper mills, not in cotton mills, as was stated.

Greer Depot—Cotton Mill.—The Brooks Manufacturing Co. will establish at once the cotton batting factory recently noted. Capacity will be about 500 pounds daily. Machinery is now being installed.

Spartanburg—Ice Factory.—The Hygeia Ice & Fuel Co., noted last week as incorporated, will erect a 30-ton ice factory at once, erection of buildings having already been commenced. Machinery has been secured.

Yorkville—Cotton Mill.—The York Cotton Mills, now operating 3120 spindles and 1900 twistlers, contemplates adding 2496 spindles and 1200 twistlers.

TENNESSEE.

Chattanooga—Carriage Company.—Chartered: The Chattanooga Carriage Co., with the following incorporators: Peter Kettstrat, C. L. Plathe, G. W. McCorkle, W. B. and T. G. Ross.

Bristol—Electric-light Plant.—Caldwell & Dulaney have franchise for the erection and operation of an electric-light plant.

Lebanon—Flour Mill.—The Farmers' Roller Milling Co. will build a new mill, as has been reported. The new mill will have daily capacity of 150 barrels and grain elevator of 30,000 bushels attached. Plans for the buildings are now wanted, and \$100 is being offered for same; machinery will be wanted also; S. R. Hawks, manager.*

Morristown—Cannery.—The Unaka Cannery Co. has been organized by John K. Shields, R. E. L. Mountcastle, J. N. Fisher, D. P. Turner and W. D. Bushong, to establish a cannery. Address the first-named.

Savannah—Flour Mill.—W. A. Bowers will change his flour mill next year from the buhr to the roller process.

Shelburne—Iron Mines.—The Southern Mining Co. is operating the Cole City mines, near Shelburne, employing 225 men, which number will be increased to 325 next month. Capt. F. H. Connor, manager, can be addressed at Shelburne.

Sweetwater—Electric-light Plant.—The town contemplates the erection of an electric-light plant. For information address the Sweetwater Telephone & Improvement Co.*

Tullahoma—Woodworking Factory.—The Campbell & Dann Co. has commenced the erection of its proposed carriage and woodworking factory.

TEXAS.

Brownsville—Electric-light Plant.—The city has let contract to J. T. Smith for the establishment of an electric-light plant.

Corsicana—Oil Wells.—Chartered: The Consumers' Petroleum Oil Co., capital stock \$12,000, by T. J. Broad, J. W. Broad and J. J. Culbertson, to develop and own coal mines and petroleum wells, etc.

Dallas—Electric-light Plant.—The Dallas Electric Light & Power Co., capital stock \$100,000, has applied for charter and city franchise. Charles L. Wakefield, manager, can be addressed.

Galveston—Mercantile.—Incorporated: The Hagemann Commission Co., formed for the purpose of purchasing and selling goods, etc.; capital stock \$5000; incorporators, John Hagemann, M. Rosenberger and A. S. Newson.

Sheldon—Farm Company.—J. R. Cade, Matthew Nicholson, M. Scully, O. B. Cecil, J. H. Rothwell, J. D. Freeman, J. J. Ryan and Mrs. A. J. Jourde, owners of a fruit farm of 16,000 trees near Sheldon, have decided to incorporate as the South Texas Orchard and Canning Association.

Terrell—Electric-lighting.—City has granted franchise to M. A. Joy for street-lighting, etc.

Waskom—Cotton Gln.—C. M. Abney will rebuild his cotton gin next summer.

VIRGINIA.

Lynchburg—Fertilizer Factory.—The Bell-Johns Manufacturing Co. has purchased the fertilizer factory formerly conducted by R. T. Craighill & Co., and will continue the factory on a large scale, manufacturing fertilizers principally from tobacco stems.

Norfolk—Commission Company.—Chartered: The James S. Groves Co., to conduct a general commission business; capital from \$1000 to \$5000; officers—James S. Groves, president; Samuel S. Kennedy, secretary.

Portsmouth—Engine Works.—Chartered: The Self-Governing Valve Engine Co., to make, buy and sell steam engines and machinery. The capital stock is to be \$5000; officers for the first year: W. M. S. Selwyn, of Philadelphia, president; William E. Stokes, secretary and treasurer. The above and Frank G. Teese, of Philadelphia; J. Walter White and Horace G. Williams, of St. David's, Pa., constitute the board of directors; address the secretary.

Portsmouth—Advertising Company.—Chartered: The Portsmouth Street Railway Advertising Co., to conduct a general newspaper, sign, lantern, circular and mechanical advertising business in railway cars, hotels, theatres, steamboats and other places. The capital is to be \$5000; William H. Triol, of Philadelphia, president; William E. Stokes, of Philadelphia, secretary and treasurer; directors—the above-named and Griffin C. Callahan, Frank McCafferty and Walter White, all of Philadelphia; address the secretary.

Richmond—Mercantile.—The George B. Bull Co., for produce business, has been incorporated, with capital stock of \$5000, and George B. Bull, president.

Richmond—Implement Manufactory.—The T. J. King Co., incorporated last week, intends to deal in seed and manufacture a seed drill recently patented. Probably \$10,000 or more will be invested. Office of company at 1315 East Cary street.

Richmond—Electrical Power Station, etc.—The Richmond Railway & Electric Co., Edward W. Trafford, superintendent, will erect a building to be used for offices and as a station for the installation of a storage battery capable of operating 5000 lights for four or five hours.

Richmond—Publishing.—Chartered: The Advocate Publishing Co., organized to acquire the Richmond Christian Advocate and Baltimore Christian Advocate and to conduct printing and engraving business. Rev. J. J. Lafferty is president of the company. The capital stock is to be not less than \$20,000 nor more than \$50,000.

Richmond—Water-power Development, Electrical Transmission, etc.—The Virginia Electric Co. of Baltimore city has applied to the city council for franchise to erect poles, wires, etc., in order to transmit throughout the city and vicinity electric power, which latter is to be developed from the James river, near Richmond. It is proposed to sell and rent power to manufactories and other industrial establishments. The city council has the application for franchise under consideration. The General Electric Co. is said to be promoting this enterprise, and its Baltimore manager, Mr. F. I. Todd, 227 East German street, Baltimore, Md., can be addressed for information. (A report on this enterprise, at that time only contemplated, was given in this department last August.)

WEST VIRGINIA.

Charleston—Mining and Milling.—Chartered: The Grand Encampment Mining &

Milling Co., with an authorized capital of \$500,000, for the purpose of mining, treating and milling of all kinds of ores, developing mineral claims, etc. The incorporators are John Phillips, Frank H. Briggs, E. M. Carb and Henry Sader, of Cleveland, Ohio, and Thomas Kuhn, of Bedford, Ohio. Address the last named.

Charleston—Mining, etc.—Chartered: The Huguenot Mining & Milling Co., for the purpose of buying, selling and reducing ore in Arizona and elsewhere. The capital is \$2800, with the privilege of increasing to \$500,000. John H. Clapp, of Port Chester, N. Y., and other parties are the incorporators. (It is probable that this company does not intend operating in the South.)

Huntington—Mining.—Chartered: The Arctic Circle Mining Co., with an authorized capital of \$1,000,000, for the purpose of searching for, acquiring and developing minerals and mineral lands and carrying on a general mining business. The incorporators are Y. A. Hartman, George W. Sweet, August Schlatt, Raymond A. Chapin and Robert J. Embleton, all of Chicago, Ill. Probably best address is Y. A. Hartman, at Chicago. (Title of company seems to indicate that it will not operate in the South.)

Lewisburg—Water Works.—The city is now calling for bids on the construction of its proposed water works; B. F. Harlow, mayor.*

BURNED.

Atlanta, Ga.—The Georgia Cotton Oil Co.'s mill.

Baltimore, Md.—Foundry of Patrick Kennedy, damaged to extent of \$5000.

Cumberland, Md.—Hammer shops of the Cumberland Steel & Tin Plate Co.; loss, \$10,000.

Elliott, Miss.—Ginnery of August Olson; loss \$3500.

Elliott, Miss.—Cotton gin of August Olson; loss \$5000.

Hagerstown, Md.—Distillery of O. W. Good.

Hagerstown, Md.—Crte factory of A. A. Lechlider.

Judson, Fla.—Saw mills and ginnery of Tucker & Kidd; loss about \$1600.

Louisville, Ky.—Business houses of Balford & Lawson and B. S. Weller; loss, \$60,000.

Savannah, Tenn.—Saw mills of Brown & Co.; loss \$1500.

St. Augustine, Fla.—Hotel.—San Marco, owned by William Beale, of Boston, Mass.; loss \$250,000.

Texarkana, Texas.—Dry-kilns of the Central Coal, Coke & Lumber Co.

Waskom, Texas.—Ginnery of Mac Abney; loss \$1500.

BUILDING NOTES.

Abbeville, Ga.—Courthouse.—The county commissioners of Wilcox have deferred the opening of bids for new courthouse from November 6 to the first Monday in March, '98. Andrew J. Bryan & Co., Equitable Building, Atlanta, Ga., are the architects.

Baltimore, Md.—Dwellings.—Bernard Devilliss has permit for thirteen two-story houses; W. T. McCaffery for sixteen two-story dwellings; Elizabeth Fear for eight two-story houses.

Braidentown, Fla.—Dwellings.—Colonel Gillespie has let contract to Wadham & Baxter for the erection of a dwelling; Capt. John Fogarty will erect a dwelling; L. S. Johnson will erect a residence.

Chattanooga, Tenn.—Dwellings.—Morris Rosenheim is having plans prepared for dwelling.

Columbus, Texas.—Dwelling.—Geo. F. Barber & Co., of Knoxville, Tenn., have prepared plans for residence for Cary Shaw to cost \$3600.

Danville, Va.—Geo. F. Barber & Co., Knoxville, Tenn., have prepared plans for \$8000 residence for P. C. Penn.

Elon College, N. C.—Dwelling.—Geo. F. Barber & Co., of Knoxville, Tenn., have prepared plans for \$5000 residence for J. N. Williamson & Son.

Greenville, Miss.—Dwelling.—Plans for \$4500 residence for Jas. A. Negus have been prepared by Geo. F. Barber & Co., of Knoxville, Tenn.

Lebanon, Tenn.—Flour-mill Building.—The Farmers' Roller Milling Co. is offering \$100 for best plans for a flour-mill building and grain elevator of 50,000 bushels capacity. Address S. R. Hawks, manager.

McComb, Miss.—Jail.—Contract will be awarded December 7 for the remodeling of the Pike county jail building; specifications now on file with W. C. Vought, clerk.

Richmond, Va.—Office Building.—The Richmond Railway & Electric Co., Edward W. Trafford, superintendent, will erect a building to be used for offices and other purposes.

Salisbury, N. C.—Sanitarium.—Dr. Jno. Whitehead will erect \$7000 sanitarium after plans by Geo. F. Barber & Co., of Knoxville, Tenn.

Tampa, Fla.—Church.—The reported Roman Catholic church to be built will cost not more than \$10,000, not \$100,000, as has been currently stated. Address Rev. Fr. D. Tyrrell, S. J., pastor.

Tuscaloosa, Ala.—Residence.—Plans have been prepared by Geo. F. Barber & Co., Knoxville, Tenn., for residence for J. M. Foster to cost \$4000.

Washington, D. C.—Dwellings.—Edward Woltz has prepared plans for store and dwelling, three stories, 26x42 feet, for J. M. Field. Fred B. Pyle has made plans for two-story frame dwelling and store for B. F. Gaines. Henry F. Getz has contract to erect a \$10,000 building for Fred A. Schmidt; contract does not include heating, plumbing or electric appliances. William A. Kimmel is having plans prepared for six residences to cost \$45,000; each house to be three stories, 20x35 feet, with oak architraves and screens, cabinet mantels, hot-water heat, tiled baths, with exposed plumbing and electric fixtures. N. T. Haller has plans for eight houses to be erected by Chas. W. King, to cost \$6500 each; to have tiled baths, cabinet mantels, tiled fireplaces, electric fixtures, etc. B. B. Bradford has planned one-story dwelling, to cost \$5000, for Lee Hutchins; to have furnace and electric fixtures. Edward D. Donn, Jr., is preparing plans for an isolated hospital building, to be erected for Providence Hospital; structure to be three stories high, 30x85 feet, and have gas and electric fixtures, six bathrooms, etc. Scottish Rites Temple will be enlarged after plans by Robert I. Fleming.

Washington, D. C.—Hotel.—The Columbia Hotel Co. will erect an addition to its hotel, issuing \$270,000 in bonds to pay for the improvements.

Winston, N. C.—Hotel.—A report, as yet unauthenticated, says that Professor Lomady, of Elmira, N. Y., will build a hotel at Marienbad Mineral Springs, near Winston.

RAILROAD CONSTRUCTION.

Railways.

Anderson, S. C.—The Black Diamond Railroad Co. is agitating the proposed line from Knoxville, Tenn., to tidewater by way of Anderson, and is endeavoring to interest business men in the enterprise. Albert E. Boone is the principal promoter.

Belair, Md.—J. R. Stiffler is endeavoring to obtain right of way for an electric line between Belair and Havre de Grace. The proposed road is by the way of Churchill and Aberdeen, Md. It is stated that power will be obtained from a waterfall on Deer creek. The distance is fifteen miles.

Dahlgonega, Ga.—Surveys are being made for an electric railroad line, which, it is stated, may be built from Dahlgonega to Gainsville, a distance of twenty miles. Hall Bros., of Atlanta, Ga., are reported as the engineers.

Decatur, Ala.—A company is being formed, it is stated, to build a railroad line between Decatur and Danville, Ala., a distance of eighteen miles.

Glendon, N. C.—It is reported that Wm. A. Guthrie, one of the promoters of the Durham & Charlotte Railroad, has placed the necessary bonds to insure its completion between the cities mentioned. Work is now in progress on the line and nine miles are in operation. Frank D. Jones, of Glendon, N. C., is superintendent of the company.

Hodgensville, Ky.—It is reported that the Illinois Central Railroad Co. has been surveying for an extension of its Hodgenville branch to Greensburg, Ky., a distance of twenty-five miles.

Leighton, Ala.—The business men of Leighton are considering the idea of forming a company to construct a railroad to a connection with the Louisville & Nashville at Sheffield, Ala. The road will be about fifteen miles in length.

Portsmouth, Va.—It is reported that all of the contracts have been let for the eight-mile belt line in the suburbs of Portsmouth, which is to be built by the Atlantic & Southeastern Railroad Co. Surveys have been completed by J. M. Crawford, chief engineer of the New York, Philadelphia & Norfolk Co., which is one of the principal promoters of the line. It is expected to have the road in operation within six months. A. J. Cassatt, 26 South Fifteenth street,

Philadelphia, Pa., is president of the company.

Sedalia, Mo.—A. L. Strang, vice-president of the Missouri & Iowa Southern Railroad Co., advises the Manufacturers' Record that the first section will be about fifty miles in length. It is expected to begin work about January 1.

Washington, D. C.—Several miles of grading have been completed on the Washington & Chesapeake Beach Railroad by the contractors, Messrs. Green & Burrows, of Upper Marlboro, Md. L. H. Hyer, of Washington, is chief engineer of the company.

Westminster, Md.—It is reported that contracts are to be let in a few days for the construction of a portion of the Washington, Westminster & Gettysburg Railroad. Ten per cent. of the capital stock has already been subscribed. J. B. Colegrove, of Washington, is president; T. Henry Shriver, of Union Mills, Md., vice-president; Wm. P. Thomas, of Westminster, treasurer, and H. A. Cady, of Washington, secretary.

Street Railways.

Baltimore, Md.—The City Passenger Railway Co. has determined to reconstruct its Madison-avenue, Gay and Baltimore-street lines for the use of electric motors. It is understood that work is to begin at once. The length of the lines is about twelve miles. W. S. Franklin is president of the company.

Savannah, Ga.—The street railway companies have secured permission from the city council to make a number of important changes in the various electric lines. The Savannah, Thunderbolt & Isle of Hope Company will spend about \$50,000 in improving its trolley system. J. N. Harriman is managing director.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Boiler and Engine.—William Fitz Simmons, care of Kutts & Kennedy, Cordele, Ga., wants to buy boiler and engine for foundry, etc.; second-hand machine will do.

Brick Machinery.—The Arkansas Brick & Manufacturing Co., Little Rock, Ark., W. N. Weigel, manager, is in the market for prices on dry-press machinery of 40,000 daily capacity.

Concentrating Machinery.—Wanted: The best machinery for concentrating ores, either by washing or otherwise, to the capacity of 50,000 tons per annum. Address M. C., P. O. Box 681, Baltimore, Md.

Corn Mill.—See "Flour Mill."

Electrical Apparatus.—See "Engine."

Electric-light Plant.—The Sweetwater Telephone & Improvement Co., Sweetwater, Tenn., wants information and prices on town electric-light plant.

Elevator Equipment.—The Farmers' Roller Milling Co., Lebanon, Tenn., will be in the market for equipment of machinery for 50,000-bushel elevator. Address S. R. Hawks, manager.

Engine.—Walter Thomas, Palatka, Fla., wants to buy an engine to develop, four or five horse-power, for small factory use; gas engine preferred, or apparatus for connecting with electric current would answer purpose.

Engine.—P. Cemp Johnson, Easley, S. C., wants net cash prices on two or three-horse-power oil or gasoline engine, new or second-hand.

Engine Castings.—Bids will be opened November 30 by D. W. Longwell, superintendent water department, Kansas City, Mo., for removing and taking out of place two old water ends and installing new ones, including floating plunger of 24½ inches diameter, with a steel rod (five inch) connected, water-tight, and fitted to a connect cross-head in a 9,000,000 Gaskill engine, at city pumping station. Address the superintendent for further particulars.

Engines.—S. L. Gregory, Box 33, Salem, Mo., wants catalogues of engines.

Flour Mill.—Z. W. Murphy, Galtier, Ark., is in the market for roller-process flour-mill equipment of thirty barrels daily capacity, including 25-horse-power engine and boiler and cornmeal mill.

Flour Mill.—The Farmers' Roller Milling Co., Lebanon, Tenn., will be in the market for 150-barrel flour mill and equipment for 50,000-bushel grain elevator. Address S. R. Hawks, manager.

Foundry Equipment.—William Fitz Simmons, care of Kutts & Kennedy, Cordele, Ga., wants to buy equipment for foundry; second-hand machinery will do.

Gasoline Engine.—See "Engine."

Hardware.—Walter Thomas, Palatka, Fla., wants to buy four-inch light strap hinges, common iron, nickel-plated and polished; will place by the gross or great gross.

Hose.—Bids will be opened November 15 for supplying 2000 feet of fire hose, rubber lined, cotton or linen, solid wove, equal to Maltese Cross or Baker brand; W. L. Gordon, chairman board of public works, Hot Springs, Ark.

Laundry Machinery.—P. Fagan, care of Hotel Jerome, Columbia, S. C., wants catalogue of laundry machinery.

Lighting Apparatus.—Jos. H. Sands, general manager, South Carolina & Georgia Railroad, Charleston, S. C., wants prices, delivered at Charleston, on two Frost dry carburette lights, complete; that is, tank, etc., for use in private cars.

Machine Shop.—William Fitz Simmons, care of Kutts & Kennedy, Cordele, Ga., wants to buy machine-shop equipment; second-hand machinery will do.

Mill Supplies.—S. L. Gregory, Box 33, Salem, Mo., wants catalogues of mill supplies.

Railway Equipment.—The Colorado Valley Railway will require about 7000 tons of 60-pound steel rails; also 50-ton locomotives and a general equipment for passenger and freight traffic. A. M. Cooper, Sweetwater, Texas, can be addressed for further particulars.

Road Machinery.—Bids will be opened November 15 for supplying city with rock crusher of ten or twelve tons capacity per hour, mounted on steel wheels, and engine on trucks. Address Wm. L. Gordon, chairman board of public works, Hot Springs, Ark.

Saw Mill.—S. J. Hill & Bro., Cordele, Ga., will buy complete equipment for saw mill of 30,000 feet daily capacity.

Shafting, etc.—The Salem Iron Works, Salem, N. C., will probably be in the market for a lot of five-inch or six-inch shafting, couplings and hangers; also some smaller sizes; second-hand supplies preferred.

Telephone Equipment.—The Sweetwater Telephone Exchange wants to buy a 100-drop switchboard. Address D. L. Smith, manager, Sweetwater, Tenn.

Washing Machinery.—See "Concentrating Machinery."

Water Works.—Bids will be received for the construction of a brick-lined reservoir, with roof, 75x45 feet, at West Point, Miss. Address C. L. Jordan, mayor.

Water Works.—The city of Lewisburg, W. Va., will open bids November 25 for the construction of water works, including pump and boiler, 23,000 feet of four-inch and six-inch pipe, tanks, etc. (but not to include excavation, pumphouse or foundation for tanks). Plans and specifications now ready. Address B. F. Harlow, mayor.

Woodworking Machinery.—Frederic Read, 140 Nassau street, New York city, wants addresses of manufacturers of ball-handle machinery.

THE GATEWAY OF ALASKA.

American Enterprise Solves the Transportation Problem.

A Company Owning Valuable Quartz Mines on Cook's Inlet and Acres Upon Acres of Rich Placers in Contiguous Territory Will Establish a Great Commercial Depot at Snug Harbor, with Railways to the Copper River, Klondyke, and Yukon Districts, and Steamers to Seattle and San Francisco.

[From the New York Tribune.]

Abundant evidence has been laid before the public by the press—in the shape of reports from returning miners—and by the government to establish beyond doubt the extraordinary richness of the Alaskan goldfields; but both home-coming pilgrims and official reports also picture dangers,

sufferings and privations sufficient to deter even the most foolhardy from engaging, under existing circumstances, in their quest.

The routes open at present to the most exploited of these Alaskan goldfields are, nominally, five in number; but the valid objections to them are so many, and, to the unfortunate traveler, so convincing, that, were there no promise of better, Alaska might well be considered a forbidden land. The Eastern routes, through the dangerous Alexander archipelago and over the terrible mountain passes, and the 4700 miles of the Western route via St. Michaels and the Yukon, which, by the way, is choked with Arctic ice nine months of the year, seem alike to daunt and discourage American as they did Russian pluck and enterprise; for, in considering the drawbacks of these tedious, difficult and dangerous routes, it must be remembered that the transportation of the miner is but a small part of the task to be accomplished. The country about yields nothing to support life. All supplies must come from without, and, failing to obtain these, the miner must face starvation.

Now, while it is contrary to all American tradition to forego any undertaking, whether of profit or glory, because of the dangers besetting it, it is equally an American trait to conquer such dangers through quickness of perception and fertility of expedient. It will, then, hardly surprise the Tribune's readers, though it will be good news to such as may wish to try their fortunes in Alaska, to learn that a practical solution to the problem has been found by a company of Eastern capitalists and men of affairs—prominent transportation people, mining experts, men experienced in Alaskan ventures and men high in the councils of the nation, who will at once push their plans to its legitimate conclusion.

The United States Government has lately reached, from its official advisers, the same conclusion that these gentlemen had arrived at some time since. Captain Ray, of the Eighth United States Infantry, who has been sent by the government into the Klondyke for the purpose of making recommendations for the betterment of affairs there, reports "a practical route from the Tanana across the divide to the head of Cook's Inlet, via the head of Copper river," and expresses the opinion that "as soon as the development of the territory will justify this will be the shortest and most practicable route for railroad communication with the open sea. With rail communication from the head of Cook's Inlet to the Tanana the commerce of the whole Yukon valley could be controlled by routes lying wholly in our own territory."

Fully alive to this, as long ago as last spring this company of gentlemen planned a water route from Seattle and San Francisco to their deep, spacious and landlocked Snug Harbor, in Cook's Inlet, where they have laid out a town and a rail route thence through the valley of the Sushitna via Mentasta pass to Circle City in the Klondyke, and along the Tanana to Weare, on the Yukon. Such a transportation system will enable its proprietors to collect a toll from all enterprises in the Klondyke, in the Yukon and in the still more promising Copper river district, for these would naturally seek an outlet for product and an inlet for supplies over the safest, shortest and least objectionable route.

One cause which led these gentlemen to select Cook's Inlet as a base of operations was their ownership, at Snug Harbor, of thirty-five quartz ledges, or veins, of extraordinary promise. In one place, on a piece of ground 3000 feet deep and 200 feet wide, croppings of gold-bearing, free-milling quartz are to be seen for a distance of 800 feet. In this huge mass of ore alone there is, above level of millsite, work for a 500-stamp mill for an incalculable period. Magnificent water-power and fuel in abundance are at hand.

Another reason for this choice is well set forth in a recent San Francisco dispatch to the New York Herald, which says: "Cook's Inlet has been designated as 'the garden spot of Alaska.' It is known that all this region is admirably adapted for agricultural and stock-raising industries." And still another is indicated by recent press dispatches which report at least \$1,000,000 as having been brought by miners from the placer-fields of Cook's Inlet and adjacent territory. And all this gold seems to have been gotten out by comparatively few men, with the crudest of appliances. No great wonder, though, when it is known that there are numberless streams entering into Cook's Inlet and every one gold-bearing.

These facts, and the natural strategic advantages of the port, determined them

to locate there, in connection with their mining plant, a great commercial depot for trading, not only with the miners of the back country, but with the hunters, sealers and fishermen, who would find their advantages in such a market. In the official report for the year 1897 of Gov. John G. Brady, of the District of Alaska, to the Secretary of the Treasury, printed by the government and brought up to the close of the recent summer, he says: "This is the great problem—how to get supplies there and sell them at prices not akin to robbery, and how to distribute them to every river, creek or gulch where men are at work. Capital put into enterprises with such ends in view will be rewarded richly."

Besides its holdings at Cook's Inlet, the Northern Pacific & Alaska Mining, Transportation & Trading Co. (the company organized by these gentlemen) is the owner of rich placer claims in the Klondyke and Copper river regions, and so, for their own sakes, were compelled to give serious attention to a rail connection with their base of supplies at Snug Harbor.

The directory of the company is as follows: President, Henry A. Parr, of the great grain house of I. M. Parr & Son, Baltimore; vice-president, John K. Cowen, president of the Baltimore & Ohio Railroad; treasurer, Christian Devries, president National Bank of Baltimore; secretary, Robert Ramsay, president Baltimore Chamber of Commerce; general manager, George R. Tingle, ex-United States treasury agent in charge Fur Seal Islands; George R. Blanchard, chairman Joint Traffic Association; Charles J. Faulkner, United States Senator for West Virginia; Watson C. Squire, ex-United States Senator for Washington, and Dr. J. T. Royles, of Woodland, Cal., a mining expert.

The company has offices in the Equitable Building, New York; Firemen's Insurance Co.'s Building, Baltimore, and the Washington Loan and Trust Building, Washington, D. C. Its registrar of stock is the Colonial Trust Co., of this city, and its depositories are the American Exchange National Bank, New York, and the National Bank of Baltimore.

These names are ample guarantee for the intelligent and vigorous, yet conservative, conduct of this gigantic enterprise. Mr. Parr is the active member of his old-established house, the name of which is a synonym for integrity in every grain centre of the civilized world. His firm controls the elevators of the Pennsylvania Railway Co. at Baltimore. Mr. Blanchard's present position best shows his peculiar fitness for the handling of enterprises of this character. Mr. Cowen has for twenty years been associated with the management of the Baltimore & Ohio Railroad. Mr. Devries has long been an important figure in the wholesale dry goods trade of Baltimore. Mr. Ramsay is a member of Patterson, Ramsay & Co., a house closely identified with the steamship and commercial interests of the Monumental City. The newspaper-reading American public is, of course, familiar with the careers of the distinguished legislators, Senator Faulkner and ex-Senator Squire. Mr. Tingle, besides having ably served the government for many years in Alaska, was for a long time in charge of the North American Commercial Co.'s interests there, and established for that company Dutch Harbor, the principal supply and coaling station of Behring sea. Dr. Royles, a man of great scientific attainments, was the discoverer of the quartz mines at Snug Harbor.

The company has opened subscription books for the sale of a limited amount of treasury stock, the proceeds of which are to be exclusively applied to operating expenses. In the necessarily limited scope of such an article as this it is manifestly impossible to acquaint the public with all the details of this enterprise, but those who may be interested to learn more can doubtless secure fuller information by addressing their inquiries to the company, from whose prospectus many of these facts have been gathered.

Flour Mills.—Many of the successful "Case" flour mills installed in the South during late years have been built by Messrs. B. F. Starr & Co., of Baltimore, Md., who represent the Case Manufacturing Co., of Columbus, O., in the territory east of the Alleghenies. Messrs. B. F. Starr & Co. are also supplying many Southern firms with their corn meal outfits and with popular cuts for flour mills, including the "Hueffner" wave cut or corrugation, for which latter they claim many points of superiority.

If you are thinking of enlarging your mill, factory or mine, or of purchasing machinery of any kind, send us a postal card giving the character of the machinery needed.

FINANCIAL NEWS.

No advertisements but those of a financial character will be accepted for this page.

New Corporations.

The Ozark Mutual Insurance Co. has been organized at Lamar, Mo., by A. J. Wray, G. B. Davis and others.

The Abbeville-Greenwood Mutual Insurance Association has been organized by J. F. Lyon, of Abbeville, S. C.; F. C. Turner, of Greenwood, S. C., and others, to do business in the towns mentioned.

The Bank of Morehead has been incorporated at Morehead, Ky., by S. M. Bradley, T. P. V. Williams and others. The bank will open for business on January 1.

New Securities.

J. S. Johnson was awarded the issue of \$33,000 in courthouse bonds, recently sold by the city of Paris, Texas.

The city council of Richmond, Va., is considering an issue of \$200,000 in bonds for the construction of sewers. The mayor will give further information.

The Lamprecht Bros. Co., of Cleveland, O., has purchased the issue of \$55,000 in 5 per cent. bonds, recently issued by the city of Danville, Va. The price paid was 110.66.

The people of Georgetown, Ky., will vote November 20 on the question of issuing \$30,000 worth of 6 per cent. water-works bonds. The town clerk will give further information.

It is reported that the town of Lewisburg, W. Va., at its recent election, voted in favor of issuing \$13,500 in bonds for water-works purposes. The town clerk will give further information.

The city of El Paso, Texas, it is stated, has decided to vote December 7 on a proposed issue of \$80,000 in bonds for city improvements and to refund indebtedness. The mayor will give further information.

The Columbia Hotel Co. of Washington, it is stated, will issue \$270,000 in bonds bearing 5 4-10 per cent. interest, for the purpose of enlarging and improving the Raleigh Hotel, which it owns. The bonds are secured by a deed of trust made to the Fidelity Insurance, Trust & Deposit Co. of Philadelphia.

The recent issue of bonds made by the Baltimore & Northern Electric Railway Co. has been recorded at Baltimore. It amounts to \$1,250,000, and is secured by a deed of trust to the Maryland Trust Co. The object of the issue is to pay for the construction of the new line between Baltimore, Mount Washington and Pikesville.

Dividends and Interest.

The Wilmington & Weldon Railroad Co. has declared a semi-annual dividend of 4 per cent.

The Farmers & Merchants' Bank of Newberne, N. C., has declared a semi-annual dividend of 3 per cent.

The Louisville Tobacco Warehouse Co. has declared a dividend of 6 per cent. on its common and a quarterly dividend of 2 per cent. on the preferred stock. The election of officers resulted in the choice of Henry Glover as president; John H. Phelps, vice-president; Brown C. Caldwell, secretary, and J. S. Bockee, treasurer.

Financial Notes.

The Monumental Savings and Loan Association of Baltimore is attracting much interest among investors on account of the conservative and able manner in which its business is transacted. It can be safely said that the affairs of the association are in the hands of offi-

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cials in whom its stockholders can have the greatest confidence. The association has ample capital for its needs, and loans money only upon the most approved security, such as real estate, etc. It has been in existence long enough to indicate its stability. Among the officers of the association are Samuel D. Buck, vice-president of the Shoe and Leather Board of Trade; Rev. Dr. H. M. Wharton, one of the leading Baptist clergymen of Baltimore; Mr. J. Kemp Bartlett, of Shriver, Bartlett & Co., and James R. Edmunds, cashier of the National Bank of Commerce. All these gentlemen are of Baltimore and are indorsed by such firms as Messrs. Daniel Miller & Co., Armstrong,

PROPOSALS.—Sealed proposals will be received by the Mayor of Lewisburg, W. Va., until noon November 25th, 1897, for furnishing material for and erecting waterworks, principal items being pump and boiler; approximately 23,000 feet of 4-in. and 6-in. pipes, and tanks, (but not to include excavation for pipes, pump house or foundation for tanks). Plans, specifications and approximate quantities can be seen at this office. Bids must be marked on the envelope "Proposals for Waterworks." The Board of Trustees reserves the right to reject any or all bids.
B. F. HARLOW, Mayor.

Dividend No. 12.
THE AMERICAN COTTON OIL COMPANY.
No. 46 Cedar St., New York, Nov. 4, 1897.—At a meeting of the Board of Directors, held this day, a semi-annual dividend of 35 upon the Preferred Capital Stock of the American Cotton Oil Company was declared, payable Dec. 1, at the office of Winslow, Lanier & Co., 17 Nassau St., New York. The transfer books will be closed at 3.00 P.M., Nov. 11, and reopened at 10.00 A. M., Dec. 3, 1897.
JUSTUS E. RALPH, Secretary.

8 PER CENT. INVESTMENTS.
—\$300,000 ASSETS.

FULL PAID SHARES IN THE
Monumental Savings and Loan Association

sold at \$100 per share, with Dividends at the rate of 8 per cent. per annum, payable semi-annually on the first days of January and July of each year. Sales of this class of stock is limited and will be discontinued on January 1, 1898. Assets consist of FIRST MORTGAGE ON IMPROVED REAL ESTATE.

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ABSOLUTE SALE, by Trustee, under decree of foreclosure, at Public Auction, of the very extensive and thoroughly equipped

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NOVEMBER 17th, 1897,
at the premises.

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OFFICERS:
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STEPHEN H. EMMENS, Vice-President.
H. B. TILDEN, Treasurer.

DIRECTORS:
B. L. Duke, the great tobacco manufacturer of Durham, N. C.
W. T. O'Brien, of the American Tobacco Co., Durham, N. C.
Stephen H. Emmens, Pres. of the Mining and Industrial Exchange, New York City.

R. E. Lyon, of Baltimore, Md.
L. D. Heartt, Cashier First National Bank, Durham, N. C.
H. B. Tilden, of Baltimore, Md.
The stock of this company has been listed on the New York Mining and Industrial Exchange. The office of the company is at 849 Equitable Building, Baltimore, Md.

The treasury stock now being offered affords an investment opportunity that is well worth looking into.

The company does not care to sell in small lots, but will be glad to confer with investors with reference to the purchase of large blocks. The officers feel confident that the facts to be presented concerning the company's property will appeal to the best informed and most conservative and cautious investor.

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Castner & Curran. 19	Castner & Curran. 19	Gilbert, C. M., & Co. 6	McLanahan & Stone. 33	Russell & Co. 33	Wolf Co., The. 18
			Mead, Y. A., Cycle Co. 34		Wolf Co., Fred. W. 17
				S	Wood, R. D., & Co. 30
				Sabel Bros. 22	Worthington Henry R. 18
				Safe Deposit & Trust Co. 251	Wright Co., The. 12
					Wrightsville Hardware Co. 35
					Y
					York Mfg. Co. 17
					Z
					Zier & Co., M. 9

Ads. marked thus * appear every other week.
 Ads. marked thus † appear in first issue of each month.
 Ads. marked thus ‡ not in this issue.